DOCUMENT RESUME

ED 117 457 CE 006 110

AUTHOR	Schuberg, Marilyn; Canon, Betty Jean
TITLE	Communication Skills Program for Vocational Students.
INSTITUTION	Oregon State Dept. of Education, Salem.; West Linn School District 3J, Oreg.
PUB DATE	May 72
NOTE	346p.; A few pages may reproduce badly
EDRS PRICE	MF-$0.83 HC-$18.07 Plus Postage
DESCRIPTORS	Auto Mechanics (Occupation); *Communication Skills; *Course Content; Course Evaluation; Curriculum Development; Curriculum Planning; Draftsmen; Electronics; English Instruction; *Instructional Materials; *Integrated Curriculum; Job Application; Metal Working Occupations; Secondary Education; *Trade and Industrial Education; Vocational Education

ABSTRACT

The project was designed to help high school students with industrial occupational goals achieve practical communication skills necessary for efficient employment entry. Industrial arts and language arts teachers together developed major essential categories for vocational English (reading skills, correspondence skills, reference skills, technical terminology, and job hunting skills) and subdivided these into specific communication skills. Multiple job sheets were developed for each skill utilizing content from the occupational fields (auto mechanics, drafting, electronics, and metals). A total of 277 job sheets, each about a 50 minute assignment, were developed and reviewed by an advisory committee for each industrial area. After completing 45 sheets a student received a grade and credit for the class. Student response was positive and evaluations by the instructors indicate their satisfaction with the program and the need for its continuation. The course materials (most of the document) are: student progress record sheets, performance evaluation sheet, separate job sheets for the four industrial areas covering skills in the essential categories (presenting objectives, materials, and procedures for students to use independently), and a bibliography for each area. Also included are notes from the advisory committee meetings, and favorable program evaluations from parents and outside educators. (Author/MS)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

403.99
P523

ED117457

JAN 1 9 1976

Communication Skills Program for Vocational Students

by
Language Arts Consultants:
Ms. Marilyn Schuberg
Ms. Betty Jean Canon

Project Director:
Dr. Alvin K. Pfahl

MAY, 1972

Developmental Project
of
West Linn Public Schools
West Linn, Oregon 97068

in cooperation with

Oregon State Department of Education
942 Lancaster Drive, NE
Salem, Oregon 97310

CE006110

U.S. DEPARTMENT OF HEALTH.
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

TABLE OF CONTENTS

I. Development of Communication Skills Program for Vocational Students 1

II. Communication Skills Progress Record Sheets

- A. Auto Mechanics. 4
- B. Drafting. 6
- C. Electronics 8
- D. Metals. 10

III. Performance Evaluation for Grading Purposes 12

IV. Summary Evaluation by Instructors 14

V. Student Evaluation. 20

VI. Job Sheets. 22

- A. Reading
- B. General Reference
- C. Special Reference
- D. Technical Terminology
- E. Correspondence
- F. Finding and Getting a Job

VII. Bibliography of Materials Used in Program 322

VIII. Vocational Advisory Committee Meetings Pertaining to Vocational English. 328

IX. Parent Evaluation 333

X. Evaluation by Out-of-District Team. 334

DEVELOPMENT OF COMMUNICATION SKILLS PROGRAM FOR VOCATIONAL STUDENTS

Introduction: This was an exemplary project aimed to extend a program designed to help high school students with industrial occupational goals and achieve practical communication skills necessary to efficient employment entry.

Background: The original developmental planning was undertaken by four industrial teachers, (James Simpson, Gerald Quinn, Andy Espino, and Don Schmeiser), two language arts teachers, (Norma Cameron and Marilyn Schuberg), chairman of English (Betty Canon), and the director of vocational education (Dr. Alvin K. Pfahl). The language arts teachers conferenced a minimum of four hours in each of the four industrial curriculum areas observing operation of each machine or piece of equipment, viewing the course content, surveying the occupational publications for each field, reviewing the cluster communication skills as suggested in the state guide, and interrogating the occupationally competent industrial instructors about the nature of communications processes in the respective occupational areas.

Major essential categories of vocational English were established as follows:

1. Reading skills
2. Correspondence skills
3. Reference skills
4. Technical terminology, symbols, abbreviations, spelling
5. Job hunting skills

Each major category was subdivided into specific communication skills. For each specific skill multiple job sheets were developed to utilize the differentiated skills. The language arts personnel subdivided the established communication categories into differentiated skills. Job sheets were developed for each differentiated skill. As the language arts teachers developed job sheets, the vocational instructors "plugged in" content for their respective occupational field. The aim was to accumulate a minimjm of two hundred useable job sheets useable in each industrial area.

Accumulation of a large number of job sheets was necessary for the class to become functional fall semester. It was aimed that each job sheet would be equated to about a fifty minute assignment. Some job sheets were assigned a multiple value. When a student completed forty-five jobs he received his completed grade and credit for this class.

The program operated (1970-71) in a facility where students had access to the vocational resources of the West Linn School libraries and had access to the occupational expertise of the vocational instructors. The student response to the course was very positive. The program had definite value to interdisciplinary curriculum developments.

The unique features of the exercise were:

1. The identification of specific job skills for communication in the delimited industrial areas of drafting, mechanics, metals, and electronics.
2. The teaching of the communication skills using relevant occupational content.
3. The bridging of a gap between "academic" and vocational to a purposeful communications education for students.

The original developmental work was accomplished by the developmental team spring 1970. In-service days prior to school closure were utilized. The teachers volunteered much additional time.

The Funded Exemplary Project

All the job sheets that existed were revised. Many were extended in content. The original experience with them in the classroom evidenced that students operated and produced completed assignments much faster than in the traditional language arts classroom. The teachers rough estimate was approximately 200% faster!

The English modules on file at the Northwest Educational Regional Laboratory were reviewed. Some ideas were adapted and incorporated. These were not as helpful as originally planned.

The ultimate productivity goal was to revise, complete, or write two hundred job sheets instructionally useable for each of the delimited industrial areas. Some job sheets could be used in each instructional area; some were limited to one or several of the areas.

A total of 277 job sheets were completed and used in the instructional program.

The specified objectives were:

Objective #1 - Have all existing job sheets reviewed by respective industrial Advisory Committee to ascertain their occupational relevance.

An Advisory Committee for each delimited industrial area was convened. The vocational-english instructor, Marilyn Schuberg, presented all of the then existing job sheets to the committee for review. Notes pertaining to the meeting are attached in appendix addendum.

Advisory Committee feedback was very positive for further implementing and revising the program. What was surprising to the educators involved was the difference.

Objective #2 - Re-edit the existing job sheets, revising and extending the industrial content.

This was accomplished by the team of heretofore mentioned industrial teachers. The language arts teachers assisted in editing.

Objective #3 - Update and correct biographical materials.

This was accomplished by the team of industrial and language arts teachers.

Objective #4 - New job sheets will be added.

Approximately 30% of the total job sheets were added during this proposal.

Objective #5 - Improve the differentiation of language arts categories 4 and 5.

This was accomplished.

RECORD SHEETS

FOR

STUDENT PROGRESS

VOCATIONAL-ENGLISH RECORD SHEET #1

AUTO. MECHANICS

SKILL	JOB SHEET NUMBER				
	1	2	3	4	5
I. READING					
A. OVERVIEWING I					
OVERVIEWING II					
B. PREVIEWING					
C. SCANNING PRE-TEST			TIME:		
SCANNING I					
Time:					
SCANNING II					
Time:					
SCANNING III					
Time:					
SCANNING POST-TEST			TIME:		
D. SKIMMING					
E. TRADE NEWSPAPER					
F. ORGANIZING WHAT YOU HAVE READ					
1. Technical Prod.					
2. Instr. for Proc.					
3. Major/Minor Details					
4. Recognizing Prop.					
5. Analyzing Prop.					
II. GENERAL REFERENCE					
A. ALPHABETIZING					
B. GUIDE WORDS					
C. TABLE OF CONTENTS					
D. INDEX					
E. GLOSSARY					
F. REFERENCE TABLES					
G. COPYRIGHT					

SKILL	JOB SHEET NUMBER			
	1	2	3	4
III. SPECIAL AUTO. MECH. REFERENCE				
A. ALPHABETIZING				
B. GUIDE WORDS				
C. SPECIFIC REFERENCES				
D. TABLE OF CONTENTS				
IV. TECHNICAL TERMINOLOGY				
1. Pre-Test #1				
Post-Test #1				
2. Pre-Test #2				
Post-Test #2				
3. Pre-Test #3				
Post-Test #3				
4. Pre-Test #4				
Post-Test #4				
5. Pre-Test #5				
Post-Test #5				
6. Pre-Test #6				
Post-Test #6				
7. Pre-Test #7				
Post-Test #7				
8. Pre-Test #8				
Post-Test #8				

4

VOCATIONAL-ENGLISH RECORD SHEET #2
AUTO. MECHANICS

V. CORRESPONDENCE SKILLS

Job Sheet No.	Type	Completed
1	Exam. & Eval. Letter of Request	☐
2	Exam & Eval. Letter of Request	☐
3	Write 3 Letters of Request	
	Letter #1	☐
	Letter #2	☐
	Letter #3	☐
4	Exam. & Eval. Order Letter	☐
5	Write 3 Order Letters	
	Letter #1	☐
	Letter #2	☐
	Letter #3	☐
6	Exam. & Eval. Claim Letter	☐
7	Exam. Claim Letters	☐
8	Write 3 Claim Letters	
	Letter #1	☐
	Letter #2	☐
	Letter #3	☐
9	Order using a form	
	Order #1	☐
	Order #2	☐
	Order #3	☐
10	Complete a check	☐
11	Complete a money order	☐
12	Specific service order	☐

VI. SKILL - FINDING & GETTING A JOB

Job Sheet No.	Type	Completed
1	Job Survey Sheet	☐
2	Job Explorations (Do three of these) #1 ☐ #2 ☐ #3 ☐	
3	Work Permit	☐
4	Social Security	☐
5	Letter of Application	☐
6	Application forms (Do three of these) #1 ☐ #2 ☐ #3 ☐	
7	Apprenticeship Training	☐
8	Apprenticeship Training	☐
9	Films/Guest Speakers ☐ ☐ ☐ ☐ ☐ ☐ ☐	

Chapter	Text You and Your Job	Completed
#1		☐
#2		☐
#3		☐
#4		☐
#5		☐
#6		☐
#7		☐

5

VOCATIONAL-ENGLISH RECORD SHEET #1
DRAFTING

SKILL	JOB SHEET NUMBER				
	1	2	3	4	5
I. READING					
A. OVERVIEWING I					
OVERVIEWING II					
B. PREVIEWING					
C. SCANNING PRE-TEST	TIME:				
SCANNING I					
Time:					
SCANNING II					
Time:					
SCANNING III					
Time:					
SCANNING POST-TEST	TIME:				
D. SKIMMING					
E. TRADE NEWSPAPER					
F. ORGANIZING WHAT YOU HAVE READ					
1. Classification					
2. Recognizing Prop.					
3. Analyzing					
G. TRADE JOURNALS					
II. GENERAL REFERENCE					
A. ALPHABETIZING					
B. GUIDE WORDS					
C. TABLE OF CONTENTS					
D. INDEX					
E. GLOSSARY					
F. REFERENCE TABLES					
G. COPYRIGHT					

SKILL	JOB SHEET NUMBER			
	1	2	3	4
III. SPECIAL DRAFTING REFERENCE				
A. ALPHABETICAL ORDER				
B. GUIDE WORDS				
C. INDEX				
D. SPECIAL REFERENCE				
IV. TECHNICAL TERMINOLOGY				
A. ABBREVIATIONS				
1. Pre-Test #1				
Post-Test #1				
2. Pre-Test #2				
Post-Test #2				
3. Pre-Test #3				
Post-Test #3				
4. Pre-Test #4				
Post-Test #4				
5. Pre-Test #5				
Post-Test #5				

6

VOCATIONAL-ENGLISH RECORD SHEET #2
DRAFTING

V. CORRESPONDENCE SKILLS

Job Sheet No.	Type	Completed
1	Exam. & Eval. Letter of request	☐
2	Exam. & Eval. Letter of request	☐
3	Write 3 letters of request:	
	Letter #1	☐
	Letter #2	☐
	Letter #3	☐
4	Exam. & Eval. Order letter	☐
5	Write 3 Order letters:	
	Letter #1	☐
	Letter #2	☐
	Letter #3	☐
6	Exam. & Eval. Claim Letter	☐
7	Exam. & Eval. Claim Letter	☐
8	Order using an Order Form	
	Order #1	☐
	Order #2	☐
	Order #3	☐
9	Complete a check	☐
10	Complete a Money Order	☐

VI. SKILL - FINDING & GETTING A JOB

Job Sheet No.	Type	Completed
1	Job Survey Sheet	☐
2	Job Exploration (Do three of these)	
	#1 ☐ #2 ☐ #3 ☐	
3	Work Permit	☐
4	Social Security	☐
5	Letter of Application	☐
6	Application Forms (Do three of these)	
	#1 ☐ #2 ☐ #3 ☐	
7	Apprenticeship Training	☐
8	Apprenticeship Training	☐
9	Films/Guest Speakers	
	☐ ☐ ☐ ☐ ☐ ☐ ☐	

Chapter	Text You and Your Job	Completed
#1		☐
#2		☐
#3		☐
#4		☐
#5		☐
#6		☐
#7		☐
#8		☐

VOCATIONAL-ENGLISH RECORD SHEET #1
ELECTRONICS

SKILL

I. CORRESPONDENCE

Job Sheet No.	Type	Completed
1	Exam. & Eval. Letter of Request	☐
2	Exam. & Eval. Letter of Request	☐
3	Write 3 Letters of Request	
	Letter #1	☐
	Letter #2	☐
	Letter #3	☐
4	Exam. & Eval. Order Letter	☐
5	Write 3 Order Letters	
	Letter #1	☐
	Letter #2	☐
	Letter #3	☐
6	Exam. & Eval. Claim Letter	☐
7	Exam. & Eval. Claim Letter	☐
8	Write 3 Claim Letters	
	Letter #1	☐
	Letter #2	☐
	Letter #3	☐
9	Order using a form	
	Order #1	☐
	Order #2	☐
	Order #3	☐
10.	Complete a Check	☐
11.	Complete a Money Order	☐

SKILL

II. READING

JOB SHEET NUMBER

SKILL	1	2	3	4	5
A. OVERVIEWING I					
OVERVIEWING II					
B. PREVIEWING					
C. SCANNING PRE-TEST		TIME:			
SCANNING I					
TIME:					
SCANNING II					
TIME:					
SCANNING III					
TIME:					
SCANNING POST-TEST		TIME:			
D. SKIMMING					
E. TRADE JOURNALS					
F. ORGANIZING WHAT YOU HAVE READ					
1. Technical Proc.					
2. Classification					
3. Cause and Effect					
4. Effect and Cause					
5. Major and Minor Details					
6. Statement of Fact					
7. Outlining					
8. Recognizing Prop.					
9. Analyzing Prop.					

8

VOCATIONAL-ENGLISH RECORD SHEET #2
ELECTRONICS

III. TECHNICAL TERMINOLOGY

	ABBREV.		SYMBOLS	
PRE-TEST #1				
POST-TEST #1				
PRE-TEST #2				
POST-TEST #2				
PRE-TEST #3				
POST-TEST #3				
PRE-TEST #4				
POST-TEST #4				

IV. GENERAL REFERENCE

	JOB SHEET NUMBER				
	1	2	3	4	
A. ALPHABETIZING					
B. GUIDE WORDS					
C. TABLE OF CONTENTS					
D. INDEX					
E. GLOSSARY					
F. REFERENCE TABLES					

V. SPECIAL ELEC. REFERENCE

A. ALPHABETICAL ORDER					
B. GUIDE WORDS					
C. TABLE OF CONTENTS					
D. GLOSSARY (11 Job Sheets do 1 per week)					
E. SPECIAL REFERENCE					

VI. SKILL - FINDING & GETTING A JOB

Job Sheet No.	Type	Completed
1	Job Survey Sheet	☐
2	Job Explorations (Do three of these) #1 ☐ #2 ☐ #3 ☐	
3	Work Permit	☐
4	Social Security	☐
5	Letter of Application	☐
6	Application Forms (Do three of these) #1 ☐ #2 ☐ #3 ☐	
7	Apprenticeship Training	☐
8	Apprenticeship Training	☐
9	Films/Guest Speakers ☐ ☐ ☐ ☐ ☐ ☐ ☐	

Chapter	Text YOU AND YOUR JOB	Completed
1	"Job Opportunities"	☐
2	"Pick Your Goal!"	☐
3	"Summer Employment"	☐
4	"Selling Your Talents"	☐
5	"Letter of Application"	☐
6	"Application Blank"	☐
7	"Personal Interior"	☐
8	"First Day on the Job"	☐

VOCATIONAL-ENGLISH RECORD SHEET #1
METAL SHOP

SKILL	JOB SHEET NUMBER				
	1	2	3	4	5
I. READING					
A. OVERVIEWING I					
OVERVIEWING II					
B. PREVIEWING					
C. SCANNING PRE-TEST	TIME:				
SCANNING I					
Time:					
SCANNING II					
Time:					
SCANNING III					
Time:					
SCANNING POST-TEST	TIME:				
D. SKIMMING					
E. TRADE NEWSPAPER					
F. ORGANIZING WHAT YOU HAVE READ					
1. Technical Proc.					
2. Classification					
3. Cause/Effect					
4. Inst. for Proc.					
5. Recognizing Prop.					
6. Analyzing Prop.					
G. TRADE JOURNALS					

SKILL	JOB SHEET NUMBER			
	1	2	3	4
II. GENERAL REFERENCE				
A. ALPHABETIZING				
B. GUIDE WORDS				
C. TABLE OF CONTENTS				
D. INDEX				
E. GLOSSARY				
F. REFERENCE TABLES				
G. COPYRIGHT				
III. SPECIAL MET. SH. REFERENCE				
A. ALPHABETIZING				
B. COPYRIGHT				
C. INDEX				
D. TABLE OF CONTENTS				
IV. TECHNICAL TERMINOLOGY				
A. ABBREVIATIONS				
1. Pre-Test #1				
Post-Test #1				
2. Pre-Test #2				
Post-Test #2				
3. Pre-Test #3				
Post-Test #3				
4. Pre-Test #4				
Post-Test #4				
5. Pre-Test #5				
Post-Test #5				

VOCATIONAL-ENGLISH RECORD SHEET #2

METAL SHOP

V. CORRESPONDENCE SKILLS

Job Sheet No.	Type	Completed
1.	Exam. & Eval. Letter of Request	☐
2.	Exam. & Eval. Letter of Request	☐
3.	Write 3 Letters of Request	
	Letter #1	☐
	Letter #2	☐
	Letter #3	☐
4.	Exam. & Eval. Order Letter	☐
5.	Write 3 Order Letters	
	Letter #1	☐
	Letter #2	☐
	Letter #3	☐
6.	Order using an Order Form	
	Letter #1	☐
	Letter #2	☐
	Letter #3	☐
7.	Complete a check	☐
8.	Complete a money order	☐
9.	Memo writing	☐
		☐
		☐
		☐
		☐

VI. SKILL - FINDING AND GETTING A JOB

Job Sheet No.	Type	Completed
1.	Job Survey Sheet	☐
2.	Job Exploration (Do three of these) #1 ☐ #2 ☐ #3 ☐	
3.	Work Permit	☐
4.	Social Security	☐
5.	Letter of Application	☐
6.	Application Forms (Do three of these) #1 ☐ #2 ☐ #3 ☐	
7.	Apprenticeship Training	☐
8.	Apprenticeship Training	☐
9.	Films/Guest Speakers ☐ ☐ ☐ ☐ ☐ ☐ ☐	

Chapter	Text YOU AND YOUR JOB	Completed
#1		☐
#2		☐
#3		☐
#4		☐
#5		☐
#6		☐
#7		☐
#8		☐

* Performance Evaluation for Grading Purposes

Voc. English Evaluation
2nd 9-weeks

The following evaluation form is based on a reference check used by a large company. Fill it out as though you were writing a reference for yourself, based on your performance in this class.

Date: ______________________________

Name: ______________________________

Write a statement regarding each of the following:

Amount of Work Produced Since November Evaluation: __________

____

Quality of Work: ______________________________

Attitude:

Effort ______________________________

Honesty & ______________________________

Work Habits:

Efficient Use of Time ______________________________

Ability to Concentrate on Job ______________________________

Comes Prepared to Work ______________________________

Attendance: ______________________________
(Number of days present)

On the basis of the above information rate yourself on the following grading scale: A B C D F

State your reasons for arriving at the above evaluation: __________

____

____

____

____

---

* Adapted from personnel evaluation forms obtained from Northwestern Glass Inc., Seattle, Washington

WORK HABITS RECORD SHEET

	M	T	W	Th	F	M	T	W	Th	F	M	T	W	Th	F	3-Week Total
Attendance																
In class on time with equipment																
Begin work immediately work until bell																
No disruptive behavior																
Productivity																
Return all materials																

BONUS PTS.
TOTAL

Attendance																
In class on time with equipment																
Begin work immediately work until bell																
No disruptive behavior																
Productivity																
Return all materials																

BONUS PTS.
TOTAL

Attendance																
In class on time with equipment																
Begin work immediately work until bell																
No disruptive behavior																
Productivity																
Return all materials																

BONUS PTS.
TOTAL

GRADE	TOTAL POINTS
A	266-290
B	241-265
C	226-240

Total Points for 9-Weeks

DEDUCTIONS

SUMMARY EVALUATION

BY INSTRUCTORS

EVALUATION

by Marilyn Schuberg, Vocational English Teacher

Vocational English, as it evolved from an idea in interdisciplinary education to a semester course in our English elective program, has achieved an impressive degree of success for students and teacher alike. From the point of view of the teacher, I can not help but look back to the time when I taught a traditional English program to the vocationally-oriented student, who, in spite of the best efforts of both teacher and curriculum, was turned off by whatever was offered him. This type of student was impatient at being given reading material in which he had no interest, and writing assignments for which he could see no immediate purpose; lack of interest invariably breeded behavior problems. By contrast, this same type of student in the Vocational English program has responded with enthusiasm to the job sheet concept, has eagerly read materials directly connected with the vocational area of his consuming interest, and has worked diligently; behavior problems have become virtually non-existent. Students who previously had experienced only frustration and failure in English were working hard and achieving success; without being presumptuous, it is fair to state that many students acquired an improved self-image regarding their ability to use their reading and writing skills.

The students in Vocational English enjoyed the content material of the reading assignments; they could see some purpose in acquiring refined reading skills, and furthermore, they wanted the information contained in the assigned material. Also, the short assignment concept upon which the job sheet is based was appealing; there was satisfaction in being able to complete a job sheet, turn it in, start another, and oftentimes complete several during a class period. As the instructor, I tried to give students daily feedback by correcting their job sheets and returning them the following class period. Each student worked at his own speed, kept his own records, and was remarkably self-motivated.

My role as the teacher became one of a facilitator of learning. I spent each class period moving around the room, assisting students at whatever point they needed help. The structure of the class permitted a high degree of individualized teaching and produced a positive student-teacher relationship.

All of the preceding contributed toward making Vocational English a worthwhile course, but, in my opinion, the key factor to the success of the program was the inter-disciplinary approach and the close working relationship between this English class and the vocational teachers who co-authored the job sheets. Since the classroom was located in the shop wing of West Linn High School, students were able to move freely between the classroom and their shop if technical questions arose which I could not answer, or if materials needed to be shared. Because the communication skills which were being taught and the materials being used had been selected by the vocational teachers for whom these students have an enormous respect, there was a new value placed upon the importance of English; skills in reading, writing, correspondence, and reference work became meaningful in a way in which they never had before.

EVALUATION

by Mr. Gerald Quinn, Vocational Mechanics

1. Content:
    - a. Subject matter is very relevant to vocational areas.
    - b. Student response has been extremely satisfying.
    - c. The students seem to respond towards the idea of moving along at individual rate rather than as a group.
    - d. I can see that Vocational English will need constant revision and monitoring each year.
    - e. The teacher is a very important tool in the subject and has to personally be responsive as Mrs. Schuberg has been.
    - f. A true evaluation can be reached after about three years of exploration and student response.
    - g. At this time the subject has indicated that the students are ready to accept the change, and can truly see the subject of English when it is relevant to the trade or vocation they intend to pursue in their field of work.

2. Summary:

It is my personal opinion that the program can be of great value to all students even those not pursuing vocational courses. With a yearly evaluation and updating this course can become a most rewarding subject to the students who participate, and be of great value to the school system as a whole in the inducement to have students accept English as a need rather than being something that is just required.

The true evaluation I believe can be more firmly assessed by the English teacher who teaches the subject, in comparison use of a student in the regularly required English course of the same student.

EVALUATION

by Don Schmeiser, Electronics Teacher

The Vocational English project was a huge undertaking, but the effort, I believe, was well worth it.

This program has been great for the student not only in English but has made the student more aware of his electronics in the electronics classes.

EVALUATION

by A.G. Espino, Vocational Drafting Teacher

As society becomes more complex, the role of Vocational English becomes more enhanced. It is our wish that Vocational English serves as a liason between the public and world of work.

Vocational English added to the curriculum gave meaningful experience to the students. It supplemented their learned skills in understanding fully the specified course. The students communicated more and better, regarding their experiences in the world of work.

The new course further encouraged the students to challenge the world of work because of its newness and its use to integrate the two field media of instructions.

The students did research, since they were curious and at ease with the printed words. Their research gave meaningful experiences because they understood what they were doing.

Recommendations

The course should be required the whole year, instead of a semestral basis because of its continuous need.

The teacher concern should be given an opportunity to work with the students in the shop, for a complete and better understanding with technical terms applied.

Adequate reference materials should be provided.

Technical knowledge and skills go hand in hand, therefore, Vocational English should be used, to communicate better in this ever changing society.

EVALUATION
by James B. Simpson, Vocational Metals Teacher

I must draw conclusions from feedback of students in the shop.

Pro:

1. Relationship to actuality.
2. Job packet type program.
3. Presentation of program by Mrs. Schuberg.
4. Use of shop manuals and catalogs to gather information.
5. Vocational texts (reading skills).
6. Individualized attention.
7. Job interview training.

Con:

1. Not enough depth for those students enrolled who do well in standard academic English classes.
2. Need for more periodical literature (up to date).
3. More realistic movies.

This program as I see it, is very successful. In order to remain successful we are going to have to council more closely and be sure the students who enroll are those who are definitely vocationally oriented.

STUDENT EVALUATION

		TALLY:
1.	What is the name of this course? Vocational English	
2.	How do you rate this course as to ease or difficulty?	
	1. truly a snap course	0
	2. not a great effort required	4
	3. just about my level	12
	4. keeps me on the ball	7
	5. usually over my head	1
3.	Has this course been interesting to you?	
	1. has been boring	2
	2. very little interest	0
	3. occasionally interesting	14
	4. as a rule quite interesting	3
	5. quite exciting	4
4.	Has the course been applicable to your life and interest?	
	1. seems personally directed to me	6
	2. usually has application	8
	3. sometimes appeals to my interests	4
	4. only occasionally has practical meaning to me	2
	5. almost all no value	3
5.	Have you benefited from the course?	
	1. practically a total loss	3
	2. little gain in understanding	5
	3. a fairly useful course	4
	4. have learned quite a bit	9
	5. has changed my whole outlook	2
6.	Is the instructor capable in making things understandable?	
	1. can make anything understandable	4
	2. quite good at explaining difficult concepts	10
	3. usually makes points fairly clear	8
	4. frequently is not clear	0
	5. very vague and confusing	1
7.	How do you feel about the instructor's attitude toward students and teaching?	
	1. treats students as necessary evils	1
	2. not much interest in students	3
	3. rather impersonal	0
	4. usually cooperative	5
	5. shows he really wants to help students	14
8.	Does the class session and course organization show evidence of sufficient preparation by the instructor?	
	1. very well planned and carried out	9
	2. uses time quite well	3
	3. fairly well prepared	9
	4. not too well prepared	2
	5. mostly spur-of-the-moment organization	0

Student Evaluation (cont.)

9. How much effort did you as a student exert in this course?

1.	none at all	1
2.	a little now and then	3
3.	busy about half the time	6
4.	busy most of the time	5
5.	more than ever before	7

READING SKILLS - Auto Mech.
OVERVIEWING I

Job Sheet # 1

OBJECTIVE: To develop the skill of overviewing a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1). To examine new material to find out what it contains, and (2). To determine whether a specific book contains information you want.

MATERIALS: Motors Repair Manual.

PROCEDURE: 1. Imagine you are looking at this book for the first time and want to find out what it contains.

2. Read the title.

3. Quickly scan:

(a). The table of contents
(b). The preface or forward
(c). The introduction
(d). The pictures, maps, graphs, or tables
(e). The appendix
(f). The index

4. Record your findings below:

(a). The title of this book is ______________________________

(b). Read the introduction or forward and in your own words state the purpose of the book:

(c). The Table Of Contents shows that this book contains ______ (no.) of sections, broken down into ______ (no.) of chapters.

(d). Your overview shows that this book also contains the following:
Check if applicable

(1). Index __________
(2). Appendix __________
(3). Introduction __________
(4). Other (List) __________

5. From your overview state the purposes for which you believe this book would be useful:

(1).
(2).
(3).

READING SKILLS - Auto Mech.
OVERVIEWING I

Job Sheet # 2

OBJECTIVE: To develop the skill of overviewing a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1). To examine new material to find out what it contains, and (2). To determine whether a specific book contains information you want.

MATERIALS: Motors Flat Rate and Parts Manual

PROCEDURE:

1. Imagine you are looking at this book for the first time and want to find out what it contains.

2. Read the title.

3. Quickly scan:

   a. The table of Contents
   b. The Preface or Forward
   c. The Introduction
   d. The pictures, maps, graph, or tables
   e. The Appendix
   f. The Index

4. Record your findings below:

   a. The title of this book is ______________________________

   b. Read the introduction or forward and in your own words state the purpose of the book:

   c. The Table of Contents shows that this book contains ________ (no.) of sections, broken down into ________ (no.) of chapters.

   d. Your overview shows that this book also contains the following:

   Check if applicable

   (1). Index __________
   (2) Appendix __________
   (3). Introduction __________
   (4). Other (List) __________

5. From your overview state the purposes for which you believe this book would be useful:

   (1).
   (2).
   (3).

Job Sheet # 3

OBJECTIVE: To develop the skill of overviewing a textbook.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every work he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific book contains information you want.

MATERIALS: Crouse, William H., Automotive Mechanics.

PROCEDURE:

1. Imagine you are looking at this book for the first time and want to find out what it contains.

2. Read the title.

3. Quickly scan:

   a. The Table of Contents
   b. The Preface or Forward
   c. The Introduction
   d. The pictures, maps, graphs, or tables
   e. The Appendix
   f. The Index

4. Record your findings below:

   a. The title of this book is ______________________________

   b. Read the Introduction or Forward and in your own words state the purpose of the book:

   c. The table of Contents shows that this book contains ________ no. of sections, broken down into ________ of chapters.

   d. Your overview shows that this book also contains the following:

   Check if applicable

   (1). Index __________
   (2). Appendix __________
   (3). Introduction __________
   (4). Other (List) __________

5. From your overview state the purposes for which you believe this book would be useful:

   (1).
   (2).
   (3).

Job Sheet # 4

OBJECTIVE: To develop the skill of overviewing a textbook.

Overviewing is a quick and efficient way to get a general idea about what is in a book, chapter, or an article. By overviewing you find out what a writer is saying without reading every work he has written. There are two reasons for overviewing; (1). To examine new material to find out what it contains, and (2). To determine whether a specific book contains information you want.

MATERIALS: Stephenson, George E. Power Mechanics.

PROCEDURE: 1. Imagine you are looking at this book for the first time and want to find out what it contains.

2. Read the title.

3. Quickly scan:

   a. the table of contents
   b. the preface or forward
   c. the introduction
   d. the pictures, maps, graphs, or tables
   e. the appendix
   f. the index

4. Record your findings below:

   a. The title of this book is ____________________

   b. Read the Introduction or Forward and in your own words state the purpose of the book:

   c. The Table of Contents shows that this book contains ________ (no.) of sections, broken down into _______ (no.) of chapters.

   d. Your overview shows that this book contains the following:

	Check if applicable
(1). Index	____________
(2). Appendix	____________
(3). Introduction	____________
(4). Other (List)	____________

5. From your overview state the purposes for which you believe this book would be useful:

   (1).
   (2).
   (3).

OVERVIEWING II

Job Sheet #1

OBJECTIVE: To develop the skill of overviewing a chapter in a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific chapter contains information which you want and need.

MATERIALS: Stephenson, George E., Power, Machinist, Section IV, "Electrical Energy."

PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. Record your findings below:
   a. The title of this chapter is ______________________________.
   b. This chapter is divided into ______________ of sections.
                                                    no.
   c. Most chapters indicate in the opening paragraphs what the chapter will be about. Read the first paragraph of this chapter and in your own words state the purpose!
   d. List all the bold-face headings which develop the chapter.
   e. State the technical purpose for which the information in this chapter would be useful!

OVERVIEWING II

Job Sheet #2

OBJECTIVE: To develop the skill of overviewing a chapter in a textbook or in a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific chapter contains information which you want and need.

MATERIALS: Crouse, William H., Automotive Mechanics. Chapter #32, "Transmissions with Fluid Coupling."

PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. Record your findings below.
    a. The title of this chapter is ______________________________.
    b. This chapter is divided into ______________ of sections.
       no.
    c. Most chapters indicate in the opening paragraphs what the chapter will be about. Read the first paragraph of this chapter and in your own words state the purpose.
    d. List all the bold-face headings which develop the chapter:
    e. State the technical purpose for which the information in this chapter would be useful.

READING SKILLS - Auto. Mech.

OVERVIEWING II

Job Sheet #3

OBJECTIVE: To overview a chapter in a textbook without writing all the information down.

MATERIALS: Motors Auto Repair Manual, "Automatic Level Control," pp. 1-44

PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. If you have correctly followed the process of overviewing a chapter, you should now be able to state the purpose of this chapter without having to write out all the information you listed in Job Sheets #1 and #2. Complete the following statement:

   The purpose of this chapter is:

OVERVIEWING II

Job Sheet #4

OBJECTIVE: To overview a chapter in a textbook without writing all the information down.

MATERIALS: Crouse, William H., Automotive Mechanics, Chapters 13, "Electrical System."

PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. If you have correctly followed the process of overviewing a chapter, you should now be able to state the purpose of this chapter without having to write out all the information you listed in Job Sheets #1 and #2. Complete the following statement:

   The purpose of this chapter is:

Job Sheet #1

OBJECTIVE: To develop the skill of previewing an article.

Overviewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article, or a booklet to get a more specific idea of the contents. You now read the title, headings and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS:
1. Pamphlet, "Charging, Ignition and Cranking Systems" - Section II
2. Pen or pencil.

PROCEDURE:
1. Obtain the pamphlet from the file.
2. Preview Section II of the assigned text as follows:
   a. Read the title.
   b. Read the introduction.
   c. Read the headings and subheadings.
   d. Read words, phrases, and sentences in boldface, italia, or other special type.
   e. Read the last paragraph and any summary that you might find.
   f. Look at the pictures, tables, maps, and graphs. Read the captions.
3. Answer the following questions:
   a. The title of the section is ______________________________.
   b. This section of the book deals with ________________________.
   c. The first main heading of the section tells ____________
   ____
   d. What is the second main heading of the section?
   e. What information can you expect under this heading?
   f. What kinds of illustration can you find in this section, and for what would they be useful?
   g. For what purpose would the information in this chapter be useful?
4. Return the pamphlet to the file.

Job Sheet #2

OBJECTIVE: To develop the skill of previewing an article.

Overviewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article, or a booklet to get a more specific idea of the contents. You now read the title, headings, and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS:
1. Periodic Maintenance and Circuit Checks Charging, Ignition and Cranking Systems - 5th section, p. 27 -38.
2. Pen or pencil

PROCEDURE:
1. Obtain the specified pamphlet from the file.
2. Preview the assigned pages as follows:
   a. Read the title.
   b. Read the headings and subheadings.
   c. Read words, phrases, and sentences in boldface, italia, or other special type.
   d. Read any summary that you might find.
   e. Look at the pictures, tables, maps and graphs. Read the captions.
3. Answer the following questions:
   a. The title of the section is ____________________.
   b. This section of the book desls with ________________.
   c. The first main heading of the section tells ____________.
   d. What is the second main heading of the section?
   e. What information can you expect under this heading?
   f. What kinds of lists can you find in this section, and for what would they be useful?
4. Return the pamphlet to the file.

Job Sheet #3

OBJECTIVE: To develop the skill of previewing an article.

Overviewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article, or a booklet to get a more specific idea of the contents. You now read the title, headings, and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS: Energizers and Batteries - pamphlet

Pen or Pencil

PROCEDURE:

1. Obtain the assigned pamphlet from the file.
2. Preview the pamphlet as follows:
   - a. Read the title.
   - b. Read the introduction.
   - c. Read the headings and subheadings.
   - d. Read words, phrases, and sentences in boldface, italia, or other special type.
   - e. Read any summary that you might find.
   - f. Look at the pictures, table, maps, and graphs. Read the captions.
3. Answer the following questions:
   - a. The title of the pamphlet is ______________________________.
   - b. This pamphlet deals with ______________________________.
   - c. The first main headings of the pamphlet tells ______________ ____
   - d. What is the second main heading of the pamphlet?
   - e. What information can you expect under this heading?
   - f. Summarize in your own words the information contained in this pamphlet.
4. Return the pamphlet to the file.

Job Sheet #4

OBJECTIVE: The development of skill of previewing an article.

Overviewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article, or a booklet to get a more specific idea of the contents. You now read the title, headings, and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS:
1. 20,000 Volts Under the Hood - pamphlet
2. Pen or pencil.

PROCEDURE:
1. Obtain the assigned pamphlet from the file.
2. Preview the assigned pamphlet as follows:
   - a. Read the title.
   - b. Read the headings.
   - c. Read words, phrases, and sentences in boldface, or other special type.
   - d. Read any summary that you might find.
   - e. Look at the pictures. Read the captions.
3. Answer the following questions:
   - a. The title of the pamphlet is ________________________.
   - b. This pamphlet deals with ________________________.
   - c. The heading of the pamphlet tells ________________________.
   - d. What information can you expect under this heading?
   - e. In your own words summarize the information discussed in this pamphlet.
4. Return the pamphlet to the file.

Job Sheet #5

OBJECTIVE: To develop the skill of previewing an article.

Overviewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article, or a booklet to get a more specific idea of the contents. You now read the title, headings and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS: Introducing the Delcotron Generator and the Charging Circuit. (pamphlet)

Pen or pencil.

PROCEDURE:
1. Obtain the assigned pamphlet from the file.
2. Preview the assigned pamphlet as follows:
   a. Read the title.
   b. Read the headings and subheadings.
   c. Read the preface.
   d. Read the introduction.
   e. Read words, phrases, and sentences in boldface, italia, or other special type.
   f. Read any summary that you might find.
   g. Look at the pictures. Read the captions.
3. Answer the following questions:
   a. The title of the pamphlet is ______________________________.
   b. This pamphlet deals with ______________________________.
   c. The first main heading of the pamphlet tells __________ ______________________________.
   d. What is the second main heading of the pamphlet?
   e. What information can you expect under this heading?
   f. Summarize in your own words the information contained in the pamphlet.
4. Return the pamphlet to the file.

READING SKILLS - Auto. Mech.
SCANNING

PRE-TEST

OBJECTIVE: The purpose of the Scanning Pre-Test is to help you become aware of the importance of having skills in location specific information both quickly and accurately.

MATERIALS: Motors Repair Manual, 1970; Automotive Mechanics testbook; and Motors Flat Rate Manual, 1970

PROCEDURE:
1. When you begin the test, record your time on the line provided.
2. Working as rapidly as possible, find all the information asked for in each question.
3. When you finish the Pre-test, record you time and figure your total time. Put your total time in the space provided on your Record Sheet.

BEGINNING TIME ____________________

QUESTIONS:

1. What are specification?
2. A 1965 Dodge, 101 H.P. has how many cylinders?
3. Crankshaft and Cam shaft sprockets with chain show timing marks on the ____________________________?
4. Define Friction Horsepower?
5. The heater blower cost for a 1965 Chevy II is ________________?
6. What is the number and cost of a compressor shaft seal kin for a 1965 Camaro?
7. The symbol 13 appears under Tune Up specs. for a 1967 6-240, std. transmission. What does this symbol mean?
8. Define energy.
9. What is inertia?
10. Power is the rate or ____________ at which ________ is done.

Concluding time __________

Total Time _______________

35

READING SKILLS - AUTO. MECH.
SCANNING - I

Job Sheet # 1

OBJECTIVE: To develop the skill of scanning for specific facts.

Scanning is a planned hunt-skip-read process for finding specific facts--names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it.

When you scan for a specific fact, you do very little reading. Instead, you allow your eyes to move rapidly over the material until you find what you are looking for.

MATERIALS: Automotive Mechanics. William H. Crouse, 5th edition.
Chapter # 2. "Shop Practice."

PROCEDURE: 1. Read the questions below, and scan for the answers one at a time, following these quides: Read the questions below.

a. Keep clearly in mind the question you want answered.
b. Deside in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date?
c. Move your eyes quickly over the page, looking for your clues.
d. When you find what you think is the answer, read more carefully.
e. Stop reading when you have found the correct answer.
f. Record the answer in the space provided.

2. Time yourself. You should be able to scan the material and answer the question in ________ minutes.

QUESTIONS:

1. What are specifications?

2. How are they used in shopwork?

3. What is meant by thread "Pitch"?

4. How is pitch measured?

5. What are the six basic steps in automotive shopwork?

(1.)
(2.)
(3.)
(4.)
(5.)
(6.)

6. With which kinds of Nuts are cotter pins used?

7. Describe the correct manner of using a hammer.

Job Sheet # 1 (P. 2)

8. Describe the proper method of installing a blade in a hacksaw frame.

9. What is the proper method of using a hacksaw?

Record Time ____________________

READING SKILLS - Auto Mech.
SCANNING I

Job Sheet # 2

OBJECTIVE: To develop the skill of scanning for specific facts.

Scanning is a planned hunt-skip-read process for finding specific facts, names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it. When you scan for a specific fact, you do very little reading. Instead, you allow your eyes to move rapidly over the material until you find what you are looking for.

MATERIALS: Motors Repair Manual, 1970 edition, pp 2-198, 199, 200, 201.

PROCEDURE:

1. Read the questions below, and scan for the answers one at a time, following these guidelines:
    - a. Keep clearly in mind the question you want answered.
    - b. Decide in what form the question should appear. For example, should the answer be a word, a name, a number, or a date.
    - c. Move your eyes quickly over the page, looking for your clues.
    - d. When you find what you think is the right answer, read more carefully.
    - e. Stop reading when you have found the correct answer.
    - f. Record the answer in the space provided.
2. Time yourself. Note your time on your record sheet.

QUESTIONS:

1. On a 1965 Chysler V8 413, what is the cubic inch displacement, the bore, the stroke, and the oil pressures (min. & max.)?

2. On a 1966 Plymouth 145 horsepower, how many cylinders does it have and what is the cubic inch displacement?

3. Using a Dodge V'-340, 1970 model, what is the compression ratio?

4. On a 1964 Chysler 300K w/2 carbs, no air conditioner, the hot idle speed is how many R.P.M.?

5. A 1970 Plymouth w/375 H.P.,the piston displacement is?

6. A 1965 Dodge, 101 H.P. has how many cylinders?

7. For Chysler cars made from 1945-1963, the turn-up specifications are found where in this book?

8. A 1969 Dodge V8-426 engine develops how many brake H.P. at 5000 R.P.M.?

9. A 1964 Chrysler Newport V8-361 uses what number of spark plugs?

10. A 1969 Dodge 425 H.P. engine has an oil pressure during operation of?

11. A V8-426 Hemi, has how many carburetors?

12. What is the bore & stroke of a 1966 Plymouth 425 horsepower HEMI HP2 ?

Job Sheet # 3

OBJECTIVE: To develop the skill of scanning for specific facts.

Scanning is a planned hunt-skip-read process for finding specific facts names, numbers, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it. When you scan for a specific fact, you do very little reading. Instead, you allow your eyes to move rapidly over the material until you find what you are looking for.

MATERIALS: Motors Repair Manual, 1970 edition, pp. 2-404, 405.

PROCEDURE: 1. Read the questions below, and scan for the answers, one at a time, following these guidelines;

a. Keep clearly in mind the question you want answered.
b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date.
c. Move your eyes quickly over the page, looking for your clues.
d. When you find what you think is the right answer, read more carefully.
e. Stop reading when you have found the right answer.
f. Record the answer in the space provided.

2. Time yourself. Note your time on your record sheet.

QUESTIONS:

1. On a 1960 Ford Thunderbird V8-390 with the engine built prior to Nov. 18, 1963 the valve clearance forthe intake and exhaust valve are?

2. In fitting the pistons on a 1969 8-429 the cylinder wall clearance is?

3. The ring gear and pinion backlash inch are how much on a 1965 thunderbird?

4. On a 1965 Thunderbird V8-429 the cooling system w/heater and automatic transmission capacities are what?

5. On a 1967 T-bird the master cylinder bore w/disc brakes and front disc brakes are?

6. What type of rear axel does the 1966 T-bird carry?

7. The pinion bearing pre-load is how much on a 1969 T-bird; use bearing w/seal?

8. The cooling system capacity on a 1967 T-bird w/air conditioner is?

9. To replace the starter on a 1968 T-Bird it may be necessary to do what with front wheels and steering idler arm?

10. To properly engage the oil pump intermediate shaft when installing the distributor, it may be necessary to do what?

READING SKILLS- Auto Mech.
SCANNING I

Job Sheet # 4

OBJECTIVE: To develop the skill of scanning for specific facts.

Scanning is a planned hunt-skip-read process for finding specific facts, names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it. When you scan for specific fact, you do very little reading. Instead, you allow your eyes to move more rapidly over the material untill you find what you are looking for.

MATERIALS: Testbook: Automotive Mechanics, chapter 8, "Engine Construction - Valves. Construction - Valves.

PROCEDURE:

1. Read the following questions below, and scan for the answers one at a time, following these guidelines;
   - a. Keep clearly in mind the question you want answered.
   - b. Decide in what form the answer should appear. For example should the answer be a word, a name, a number, or a date?
   - c. Move your eyes quickly over the page, looking for your clues.
   - d. When you find what you think is the answer, read more carefully.
   - e. Stop reading when you have found the correct answer.
   - f. Record the answer in the space provided.
2. Time yourself. Note your time on your Record Sheet.

QUESTIONS:

1. Paragraph 109 states that crankshaft spoockets w/chain show timing on the?

2. Under paragraph 110 the parts of a valve are?

3. The valve face passes heat to the valve seat, which helps the valve to do what?

4. Complete this sentence: Sodioum is a highly ________________

5. In the F-head engine, one valve is in the head and the other valve is where?

6. If the exhaust valve were to rotate a little each time it opened, many valve problems would be what?

7. A V8 engine using ball-pivoted valve rocker arms, (Pontiac Motor division of general motors corporation) has what valve system components?

8. In the construction of position-rotation type valve rotator, there are how many parts?

9. In the space below describe the operation of a hydrawuic Valve lifter?

10. In fig. 8-24 for how many degrees of the crankshaft rotation is the exhaust valve open?

READING SKILLS - Auto. Mech.

SCANNING II

Job Sheet #1

OBJECTIVE: To develop the skill of scanning for numerical facts.

MATERIALS:
1. Motors Auto Repair Manual, 1970
   pages 1-150, through 1-154 AVS Carter Carb.
2. Pencil

PROCEDURE: To scan the pages for answers to the following questions, proceeding one at a time.
Time yourself.

QUESTIONS:

1. What is the pump travel on a 4632S carburetor?

2. Using a 4401S carburetor, write out the specs of adjustme nt for a) idle screw, b) float drop, c) fast idle throttle valve clearance, and d) choke vacuum break.

   a) ______________________ b) ______________________

   c) ______________________ d) ______________________

3. How do you make a float level adjustment?

4. How do you adjust the float drop?

5. What is the secondary lockout and fast idle throttle valve clearance on a 4741S carb?

6. What is the pump travel, the float level, and the idle screw measurements on a Chevy II 4023S-SA carburetor?

   a) ______________________ b) ______________________

   c) ______________________

7. The method of measuring float drop is indicated in which figure?

8. In what figure is AVS pump adjustment shown?

9. On a Plymouth 1970 Model 4934S carburetor, the secondary throttle lockout is measured in what units?

10. The AVS carburetor adjustments chart for Imperial and for Chevelle is located where in the Manual?

Record time ______________________

READING SKILLS - Auto. Mech.

SCANNING II

Job Sheet #2

OBJECTIVE: To develop the skill of scanning for numerical facts.

MATERIALS:
1. Motors Repair Manual, 1970
   Pages 2-270 through 2-305
2. Pencil

PROCEDURE: In section #2 Corvair scan the section for answers to the following questions, one at a time.

QUESTIONS:

1. Engine Nos. beginning with the Qs indicate the engine year model for what year?
2. The letters T?C indicate the engine has what equipment?
3. Under 1966 Model Corvair engine, 140 h.p. auto tr. 9 indicates the engine has what?
4. How many volts would a Model 1100698 alternator with a field current (12 volts) C 80° F. have?
5. What would be the amp. output on alternator Model 1100639 at 5000 R.P.M.?
6. What would be the caster for the front wheels on a 1965 Corvair?
7. The camber on the rear wheels of a 1963 Corvair would be what?
8. The valve seat and the valve face angles on a 1964 Corvair are?
9. If the cyl. bore is worn in excess of .0005 on an inch, what should you do?
10. What is the maximum main bearing clearance for a 1969 Corvair?
11. What is the measurement of the brake drum diameter of a 1967 Corvair?
12. What is the measurement of the rear wheel brake cylinder bore?

Record time ______________________

Job Sheet # 3

OBJECTIVE: To develop the skill of scanning for numerical facts.

MATERIALS:
1. Motors Repair Manual, 1970 Pages 2-306 through 2-319
2. Pencil

PROCEDURE: In Section 2, Full size models, Ford and Mercury, scan the pages for answers to the following questions, one at a time.

QUESTIONS:

1. When the symbol Engine Code appears, it means what?

2. A starting motor number of C5TZ-11002-A has a Brush Spring Tension of how much?

3. A starter #C8VY-11002-C indicates 70 amperes 12 volts at ________ R.P.M. and a torque test at 5.0 volts, 15.5 ft. lbs indicates __________ amperes?

4. Under Tune Up Specs for a 1967 6-240, the symbol 13 appears for std. transmission. What does this mean?

5. What are the tune up specs for a 1970 Model V8351
   (a) Spark plugs?
   (b) Firing order?
   (c) Hod idle std. Trans.?

6. What is the distributor point gap on a 1970 Model V8-429? What is the dwell angle degree?

7. In Firgure G, Page 2-311 does the pointer indicate that the engine has been timed advanced or retarded and how many degrees?

8. The engine timing in Figure I, Page 2-311 tells you the timing is set at?

9. What is the firing order of the Ford 6 cylinder engines?

10. Under Valve Specs., Page 2-315 a 1968 8-302 valve last is indicated 3/4 turn 8. What does the symbol 8 mean?

11. We have a Ford Sedan with a V8-428 5 9 Basic Dist. C7Sf-B. What is the rotation on the distributor?

Record time __________

READING SKILLS - Auto Mech
SCANNING III

Job Sheet #1

OBJECTIVE: To develop the skill of scanning for a name and number.

MATERIALS: Motors Flat Rate And Parts Manual, 1970, pp. 621-22

PROCEDURE:

1. In the assigned material find a list of Parts & Time Requirements.
2. Following the procedure for scanning which you learned in Scanning I and Scanning II, scan for the answers to the questions below.
3. Scan for the answers, one question at a time, as rapidly and accurately as you can.
4. Time yourself. Note your time on your Record Sheet.

QUESTIONS:

1. The required time to overhaul w/s wipe motor 1968 model Olds is
2. The time required to replace a windshield washer pump valve in a 1965 Olds F-85 is
3. Labor cost to replace wiper motor of a 1966 Olds, taking 0.5 hours at $11.00 per hour is
4. The fuel gauge (Dash Unit) replacement time for an Olds F-85, 1969 is
5. List the time and labor charge for replacing a speedometer cable and housing $12.00 per hour on a 1970 Olds.
6. The cost and number of fuel tank gauge unit on a 1969 Olds Station Wagon with air conditioner is
7. The time required to lubricate a speedometer cable on a 1969 model Olds is
8. What is the time required to renew an oil gauge sanding unit on a 1965 Olds sedan?
9. What are the part number and price of the Fuel Gauge (Dash Unit) for a 1966 Olds sedan?
10. What are the part number and the price of the Fuel Gauge (Tank Unit) for a 1964 Olds Station Wagon w/air conditioner?
11. The part number of the windshield wiper transmission for a 1964 Olds leftside (Tandem Type) is
12. The shop time required to R. & R. the speedometer head on a 1964 Olds F-85 is

READING SKILLS - Auto. Mech.
SCANNING III

Job Sheet # 2

OBJECTIVE: To develop skill in scanning for a specific name and number.

MATERIALS: Spark Plug 1964 Dealer Catalog: AUTOLITE.

PROCEDURE:
1. Go to the file to obtain the assigned material.
2. Using the scanning skills you have been practising, find the answers to the following questions as quickly as you can.
3. Return the catalog to the file.

QUESTIONS:

1. On what page will you find plugs for a John Deere B. Series, Normal Service, w/18 MM head?
    a. Give Autolite type. __________
    b. Give the AC number. __________
    c. What is the Champion number? __________
    d. What is the Champion to Autolite number? __________
    e. Give the Champion to AC number. __________

2. What is the standard plug number for an Austin H 55 MK, 1959 model? ________
What is the standard plug number for an Austin H 55 MK, 1959 model and gap? _____

3. Give the plug number for a 1964 VW, 40 MPA 1500 series, resistor type. ________
Give the plug number for a 1964 VW, 40 HP, 1500 series, Standard type. __________

4. Locate the page where the plug number for a 1963 Dodge Dart, 6 cyl. is listed.
What is the plug number by Champion? __________
What is the Gap?

5. Give the Champion Spark Plug # and Cap for a 1961 Dodge Lancer. __________

6. Give the page where Plug Gap can be found for a 1941 Willys with aluminum head.
__________ What is the AC Plug #? __________

7. What is the torque for an 18 MM plug with a tapered seat and cast iron heads?

8. What is the Autolite number cross reference to a Champion Plug # Y8?

9. Give the AC number C86 to Autolite.

10. Give the Champion # for an Autolite plug #AR42.

Job Sheet #1

OBJECTIVE: To develop the skill of skimming for main ideas

Skimming for main ideas is a paragraph-by-paragraph search for ideas in a chapter or an article. When you skim for main ideas you focus on each of the major points made by the writer. You still don't read every word, but you now go deeper into the material than before.

MATERIALS: Crouse, William H., Automotive Mechanics, chapter 2

PROCEDURE:

1. Read the title.
2. Read the headings and subheadings.
3. Read the first sentence of every paragraph.
4. Read the last sentence of every paragraph more than five lines long.
5. Answer the questions.

QUESTIONS:

1. What are the six basic steps in automotive shopwork?

   a.   d.
   b.   e.
   c.   f.
2. Name three types of fastners.
3. What type of threads do bolts, studs and screws have?
4. What should be done to a mushroomed chisel before it is used?
5. What is a file likely to do if it is hit with a hammer?
6. A hacksaw is designed for sawing metal, wood, or plastic. True or false?
7. State the importance of the measure of linear distance.

Job Sheet #2

OBJECTIVE: To develop the skill of skimming for main ideas

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas you focus on each of the major points made by the writer. You still don't read every word, but you now go deeper into the material than before.

MATERIALS: Crouse, William H., Automotive Mechanics, chapter 38

PROCEDURE:

1. Read the title.
2. Read the headings and subheadings.
3. Read the first sentence of every paragraph.
4. Read the last sentence of every paragraph more than five lines long.
5. Answer the questions.

QUESTIONS:

1. In what figure can you find a simplified drawing of a steering system?
2. Name the various factors that enter into front end geometry.
3. The weight of the car tends to bring the wheels back to ____________________ after the turn is completed and the steering wheel is released.
4. Even though the wheels are set to toe in slightly when the car is standing still, they tend to roll ____________ on the road when the car is moving ______________.
5. The steering gear is a device that converts rotary motion into what?
6. There are two models of power steering units used on General Motors cars. Name them.
   a.
   b.
7. Chrysler power steering consists of two models. Name them.
   a.
   b.

READING SKILLS - Auto. Mech.
SKIMMING FOR MAIN IDEAS

Job Sheet #3

OBJECTIVE: To develop the skill of skimming for main ideas

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writer. You still don't read every word, but you now go deeper into the material than before.

MATERIAL: Miller, James Nathan, "It's a Dead-End Road for the Dropout"

PROCEDURE:
1. Obtain the specified article from the file.
2. Read the title.
3. Read the headings and subheadings.
4. Read the first sentence of every paragraph.
5. Read the last sentence of every paragraph.
6. Answer the questions below.

QUESTIONS:
1. What happens to the person who tries to "fake" having a high school diploma?
2. List three reasons, according to the article, why students drop out of school:
   a. ____________________
   b. ____________________
   c. ____________________
3. Compare working conditions with school conditions, as often experienced by the dropout.
   How do they differ?
   In what ways are they alike?
4. Some jobs are "learning by doing" situations where the employer trains you.
   Are such jobs increasing or decreasing?
   Are there more or less people in competition for these jobs?
5. The article states that the high school diploma has come to mean three things. Name them.
   a. ____________________
   b. ____________________
   c. ____________________
6. A high school dropout can always enlist in the Army if he can't find a job. Yes_____ No_____
   Explain your answer.
7. An employer from Portland, Oregin, is quoted on his feelings regarding the hiring of dropouts. Summarize what he says.

READING SKILLS - Auto Mech.
Met. Sh.

TRADE NEWSPAPER

Job Sheet # 1

OBJECTIVE: To test your present knowledge of a trade newspaper.

PROCEDURE: Write answers to the following questions.

QUESTIONS:

1. List the titles of all trade newspapers with which you are presently familiar.

2. What is the principal function of a trade newspaper?

3. What kinds of information would you expect to find in a trade newspaper?

4. What kinds of division and/or departments would you expect to be included in each issue?

READING SKILLS - Auto Mech.
Met. Sh.
TRADE NEWSPAPER

Job Sheet # 2

OBJECTIVE: To become familiar with the format and purpose of *The Machinist*.

MATERIALS: 3 issues of *The Machinist*.

PROCEDURE: **Note:** To complete this job sheet you will be expected to make use of all the reading skills you have been practicing.

1. Go to the magazine rack and choose any 3 issues of *The Machinist*.
2. Overview each issue of the newspaper.
3. Preview each section.
4. Answer the following questions.

QUESTIONS:

1. Who publishes *The Machinist*?
2. Where is it published?
3. How often is it published?
4. For whom is it published?
5. To find out what is in a newspaper, examine all the parts. List below the special sections which appear in each issue.

6. How many pages are in an average issue?
7. What kind of advertising does *The Machinist* contain?
8. On the basis of your overviewing and previewing, state in your own words what you consider to be the purpose of *The Machinist*?

READING SKILLS - Auto Mech.
Met. Sh.

TRADE NEWSPAPER

Job Sheet # 3

OBJECTIVE: To read and comment on a variety of articles which appear in The Machinist.

MATERIALS: Copies of The Machinist.
Pen
Scissors, paste, and blank paper.

PROCEDURE:

1. Skim and scan and organize your thoughts so that you can comment on the following variety of articles.
2. Cut out samples of the following kinds of articles.
3. Paste and label each article on a blank sheet of paper.
4. Beneath each article write your own comments as directed.

SPECIAL ARTICLES:

1. Clip an article which contains opinion, marked either by a by-line or the use of quotation marks. Summarize the opinion.
2. Clip an article that is completely objective; that is, it seems to present both sides of an issue accuratly and fairly. Summarize the article.
3. Clip an article which gives specific information that is new to you. State what it is.
4. Clip an editorial. State the issue being discussed and the point of view which is being presented.
5. Clip a swap add which you would be interested in.
6. Clip an article which deals with the skills required for a job in your field.
7. Clip an article which shows the concern of the newspaper for you as a wage earner, for you as a citizen, or for as your leisure time is involved.

Job Sheet # 4

OBJECTIVE: To determine how much you know about a trade newspaper.

MATERIALS: Your mind and your memory!

PROCEDURE: Write answers to the following questions.

QUESTIONS:

1. What is the title of the trade newspaper which pertains to your vocational interest?

2. How often is it published?

3. What did you discover to be the principal function of a trade newspaper?

4. What kinds of information did you find in a trade newspaper?

5. List four ways in which a trade newspaper might be of service to you in your career.

   (a).

   (b).

   (c).

   (d).

ORGANIZING WHAT YOU HAVE READ

Explanation of the Technical Process

Job Sheet #1

OBJECTIVE: To gain experience in reading the written and diagramatic explanation of a technical process; to be able to organize in a list the sequence of events in a process.

MATERIALS: "Wheel Alignment," Snap-On Tool Co. Manual, p. 19, Fig. 31, 32, & 33

PROCEDURE: This is a technical selection and you should read it differently than you read literature or social studies. This selection explains a process which involves adjusting with a   and eccentric ball joint.

These instructions tell you how to read material that describes a process:

1. Study the diagram. Read the names of the parts. Then try to name them without rereading the labels.
2. Read all of the boldfaced headings in the selection to find out what processes will be described.
3. Read the introductory paragraph. Read the first section; read just one sentence at a time. If it mentions something shown in the diagram, look back at the diagram after reading the sentence. When you are sure that you understand that sentence, read the next one in the same way. Stop and think about each sentence after you have read it to make sure that the meaning is clear to you.
4. After reading the entire section in this way, try to explain to yourself without looking at the book just how the process takes place.
5. Work with each of the remaining sections in the same way that you worked with the first one.
6. Then do the following on a separate sheet of paper:
   a. List in order the steps that take place in the process which has been described.
   b. Draw a diagram illustrating the process you have just outlined.
   c. Attach the above to this job sheet and hand in.

READING SKILLS - Auto. Mech.
Draft.
Elec.
Met. Sh.
ORGANIZING WHAT YOU HAVE READ
Recognizing Propaganda

Job Sheet #1

OBJECTIVE: To recognize propaganda techniques

MATERIALS: Information packet on recognizing propaganda

PROCEDURE:
1. Read the information packet on recognizing propaganda.
2. List below the six propaganda tricks.
3. Read the following advertisements. Try to identify the tricks used. Write their name or names on the lines below the advertisement.

Propaganda Tricks

1. ____________ 4. ____________
2. ____________ 5. ____________
3. ____________ 6. ____________

* * * * *

A. Wherever you go, you see the new Streamjet car. You can hardly drive a block without seeing a new Streamjet. And you can't miss its years-ahead glamour styling. Its muscular engine gives you effortless super-power performance from idling to top speed in seconds. Streamjet's stratosphere ride gives you featherbed riding over the roughest roads or smoothest superhighways. You can't make a better investment for supreme driving pleasure than the new Streamjet. No wonder it's the most popular car in its price class, first in sales all over the nation! See your Streamjet dealer for your best buy in luxury with amazing economy. Once you drive the new Streamjet, you'll never want to own any other car.

Trick or tricks used? ____________________

* * * * *

B. Are you suffering from Athlete's Itch? Dryfoot brings fast relief through a new scientific formula containing a medically proven ingredient. Your doctor will tell you that keeping your feet dry is important to control Athlete's Foot Itch. Damp, sweaty areas help the fungus which causes burning, stinging discomfort. Your skin in these areas blisters, cracks, peels, and becomes infected, causing intense itching and pain. This condition is accompanied by an offensive odor, too. But fortunately quick relief can be yours with Dryfoot.

Medical science knows today that many methods of treating fungus infections do more harm than good because they are too strong and cause greater irritation. Dryfoot soothes infected places because it is the only leading preparation that contains the medically proven ingredient H-7 to keep skin dry and aid healing by checking the growth of fungi which cause Athlete's Itch. Get Dryfoot today at all leading drug counters, and enjoy wonderful comfort.

Job Sheet #1

Trick or tricks used? ______________________________

* * *

C. Are you putting off that much-needed vacation because you don't have ready cash? Then you should know that fun-bound families stop first at the E-Z Credit Bank for an easy-to-budget vacation loan. E-Z Credit is a neighborly bank where you'll find fast, friendly service from folks who understand your money problems. You can have complete confidence in the service E-Z Credit Bank offers. Borrow up to $500.00 with repayment terms you select. More than a million loans in five years are your assurance that people have confidence in E-Z Credit service. And you can be sure of complete privacy and prompt, courteous, friendly service at the E-Z Credit Bank. Make your vacation dream come true. See our man at the office nearest you.

Trick or tricks used? ______________________________

* * *

D. A pleasant-looking service station attendant is pictured cleaning the windshield of the shiny car in which a smiling customer is seated at the wheel. Below appears the following:

With Mixo Hygrade gasoline you're miles ahead. Mixo scientists used atomic research to bring you new Mixo Hygrade. Now you can be protected against engine deposits that waste gasoline, cause costly repairs, and rob your car of the power it should deliver. Mixo gives you fast starts, smooth power, and sure response at all speeds, with the best mileage economy of any gasoline. Fill up at your friendly Mixo dealer—he'll be glad to see that your car is treated to the best possible service.

Trick or tricks used? ______________________________

READING SKILLS - Auto. Mech.
Draft.
Elec.
Met. Sh.

ORGANIZING WHAT YOU HAVE READ

Analyzing Propaganda

Job Sheet #1

OBJECTIVE: To learn to analyze propaganda

MATERIALS: Information packet on analyzing propaganda

PROCEDURE:
1. Read information packet on analyzing propaganda.
2. Analyze the examples of propaganda which are given below.
3. For each example, answer the five following questions:
   a. Who is the propagandist?
   b. Whom is he serving?
   c. What is his aim in writing on this subject?
   d. To what human interests, desires, emotions, does he appeal?
   e. What techniques does he use? (Propaganda tricks)

A. Do you want roads that are defaced and disfigured by billboard advertising? All over America, beautiful views have been spoiled by the billboard scourge. These eyescores have been put up so thickly along some highways that they are now billboard alleys, dangerous to motorists. Don't let our new national highways be cluttered by ugly billboards as other roads have been. Write to your Congressman today and urge him to oppose this menace.

1. Who is the propagandist?
2. Whom is he serving?
3. What is his aim in writing on this subject?
4. To what human interests, desires, and emotions does he appeal?
5. What techniques does he use?

B. Our right to work is as important as any other one protested by the Bill of Rights. Yet labor unions have denied the right to earn a living to millions of Americans by forcing employers to sign compulsory union contracts. Crooked union bosses, using all kinds of skulduggery, have kept many members from voting in union elections, creating slave labor conditions. Right-to-work laws have been passed in many of our states to protest this right of Americans. As a patriotic citizen interested in preserving our way of life, you should write to members of your state legislature urging them to vote for a right-to-work law.

1. Who is the propagandist?
2. Whom is he serving?
3. What is his aim in writing on this subject?
4. To what human interests, desires, and emotions does he appeal?
5. What techniques does he use?

Job Sheet #1

C. Steve Jones is a man who understands your problems because he's lived them. Born in a small town, he made his way up the ladder the hard way. As a boy he helped put two brothers and a sister through college by carrying groceries, shoveling snowy sidewalks, and mowing lawns. He still found time to sing in his church choir and become an Eagle Scout. In high school he starred on the baseball and basketball teams and was elected class president in his junior year.

When war came, he slugged it out with the Nazis in North Africa, Italy, and France. Returning to work his way through college, he soon married the lovely Betty Smith and now has three fine children.

Steve founded his own successful business in our town. He has always taken an active part in community affairs, serving actively in PTA, church, and charity activities.

"If elected," says Steve, "I promise to do my best for my many good friends and neighbors in Milltown. They're my kind of folks."

Vote for Steve Jones for mayor, the kind of honest, hardworking, fearless leader we need. He's your kind of guy.

a. Who is the propagandist?
b. Whom is he serving?
c. What is his aim in writing on this subject?
d. To what human interests, desires, and emotions does he appeal?
e. What techniques does he use?

READING SKILLS - Auto. Mech.
ORGANIZING WHAT HAVE YOU READ

Analyzing Propaganda

Job Sheet #2

OBJECTIVE: To learn to analyze propaganda

MATERIALS: Information packet on analyzing propaganda
LIFE magazine, June 11, 1971, pp 37; pp 56-56A.

PROCEDURE:
1. Review the information packet on analyzing propaganda.
2. Obtain the assigned issue of LIFE magazine from the file.
3. Examine the assigned advertisements and answer the following questions on each.
4. Return the magazine to the file.

QUESTIONS:

A. Vega Kammback, p. 37
   1. Who is the propagandist?
   2. Whom is he serving?
   3. What is his aim in writing on this subject?
   4. To what human interests, desires, and emotions does he appeal?
   5. What techniques does he use?

B. Goodyear Tire and Rubber Co., pp. 56-56A
   1. Who is the propagandist?
   2. Whom is he serving?
   3. What is his aim in writing on this subject?
   4. To what human interests, desires, and emotions does he appeal?
   5. What techniques does he use?

OVERVIEWING I

Job Sheet #1

OBJECTIVE: To develop the skill of overviewing a textbook or a technical book.

Overviewing is a quick way to get a idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing (1). To examine new material to find out what it contains, and (2). To determine whether a specific book contains information you want.

MATERIALS: 1) A Manual of Engineering Drawing for Students and Draftsmen, McGraw-Hill Book Co., N.Y., 10th ed.

2) Pen

PROCEDURE: Imagine you are looking at this book for the first time and want to find out what it contains.

1. Read the title.
2. Quickly scan:
   - (a). the table of contents
   - (b). the preface or forward
   - (c). the introduction
   - (d). the pictures, maps, graphs, or tables
   - (e). the appendix
   - (f). the index
3. Record your findings below:
   - (a). The title of this book is ______________________________
   - (b). Read the introduction and in your own words state the purpose of the book.
   - (c). The table of Contents shows that this book contains ________ of sections (no.) broken down into __________ of chapters. (no.)
   - (d). Your overview shows that this book also contains the following:

     Check if applicable

     (1). index ____________

     (2). appendix ____________

     (3). introduction ____________

     (4). other (list) ____________
   - (e). From your overview, state the purposes for which you believe this book would be useful.

     (1).

     (2).

     (3).

Job Sheet #2

OBJECTIVE: To develop the skill of overviewing a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific book contains information you want.

MATERIALS: 1. Architecture, Design, Engineering Drawing, Published by McKnight & McKnight Co., Bloomington, Illinois.

2. Pen

PROCEDURE: Imagine you are looking at this book for the first time and want to find out what it contains.

1. Read the title

2. Quickly scan:

(a). the table of contents
(b). the preface or forward
(c). the introduction
(d). the pictures, maps, graphs, or tables
(e). the appendix
(f). the index

3. Record your findings below:

(a). The title of this book is ______________________________

(b). Read the introduction and in your own words state the purpose of the book.

(c). The table of Contents shows that this book contains ________ (no.) of sections, broken down into ______ (no.) of chapters.

(d). Your overview shows that this book also contains the following:

	Check if applicable
(1). index	____________
(2). appendix	____________
(3). introduction	____________
(4). other (list)	____________

(e). From your overview, state the purpose for which you believe this book would be useful:

(1).
(2).
(3).

READING SKILLS - Draft.
OVERVIEWING I

Job Sheet #3

OBJECTIVE: To develop the skill of overviewing a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1). To examine new material to find out what it contains, and (2). To determine whether a specific book contains information you want.

MATERIALS:
1. Architecture, Drafting, and Design, Hepler, Donald & Wallach, Paul McGraw-Hill Co.
2. Pen

PROCEDURE: Imagine you are looking at this book for the first time and want to find out what it contains.

1. Read the title
2. Scan Quickly:
    - (a). the table of contents
    - (b). the preface
    - (c). the introduction
    - (d). the pictures, maps, graphs, or tables
    - (e). the appendix
    - (f). the index
3. Record your findings below:
    - (a). The title of this book is ______________________________
    - (b). Read the introduction and in your own words state the purpose of the book.
    - (c). The Table of Contents shows that this book contains ________ (no.) of sections, broken down into ________ (no.) of chapters.
    - (d). Your overview shows that this book also contains the following:

      Check if applicable
      (1). index ________
      (2). appendix ________
      (3). introduction ________
      (4). other (list) ________
    - (e). From your overview, state the purpose for which you believe this book would be useful:

      (1).
      (2).
      (3).

Job Sheet #4

OBJECTIVE: To develop the skill of overviewing a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1). To examine material to kind out what it contains, and (2). To determine whether a specific book contains information you want.

MATERIALS:
1. Mechanical Drawing: A text with problem layouts, McGraw-Hill Co., N.Y.
2. Pen

PROCEDURE: Imagine you are looking at this book for the first time and want to find out what it contains.

1. Read the title
2. Quickly scan:
   (a). the table of contents
   (b). the preface or forward
   (c). the introduction
   (d). the pictures, maps, graphs, or tables
   (e). the appendix
   (f). the index
3. Record you findings below:
   (a). The title of this book is ______________________________
   (b). Read the introduction and in your own words state the purpose of the book.
   (c). The Table of Contents shows that this book contains ________ (no.) of sections, broken down into ________ (no.) of chapters.
   (d). Your overview shows that this book also contains the following:

	Check if applicable
(1). index	________
(2). appendix	________
(3). introduction	________
(4). other (list)	________

   (e). From your overview, state the purpose for which you believe this book would be useful:
   (1).
   (2).
   (3).

Job Sheet #1

OBJECTIVE: To develop the skill of overviewing a chapter in a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific chapter contains information which you want and need.

MATERIALS: 1. French, Thomas and Vierck, Charles, Engineering Drawing, chapter 8, "Sections and Conventions."

2. Pen

PROCEDURE: Overview the chapter as follows:

1. Read the title
2. Read the bold-face headings
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. Record your findings below:

a. The title of this chapter is ______________________________

b. This chapter is divided into _______ of sections
no.

c. Most chapters indicate in the opening paragraphs what the chapter will be about. Read the first paragraphs of this chapter and in your own words state its purpose:

d. List all the bold-face headings which develop the chapter!

e. State the technical purpose for which the information in this chapter would be useful:

OVERVIEWING II

Job Sheet #2

OBJECTIVE: To develop the skill of overviewing a chapter in a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific chapter contains information which you want and need.

MATERIALS: 1. Hepler and Wallach, Architecture, Design, Engineering & Drawing, Section, Two, "Service Area."

2. Pen

PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. Record your findings below.

a. The title of this chapter is ______________________________

b. This chapter is divided into __________ (no.) of sections.

c. Most chapters indicate in the opening paragraphs what the chapter will be about. Read the first paragraphs of this chapter and in your own words state its purpose:

d. List all the bold-face headings which develop the chapter:

e. State the technical purpose for which the information in this chapter would be useful.

OVERVIEWING II

Job Sheet #3

OBJECTIVE: To overview a chapter in a textbook without writing all the information down.

MATERIALS: French and Svenson, Mechanical Drawing, Chapter 1, "The Language of Drawing."

PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. If you have correctly following the process of overviewing a chapter, you should now be able to state the purpose of this chapter without having to write out all the information you listed in Job Sheets #1 and #2. Complete the following statement.

The purpose of this chapter is -

READING SKILLS - Drafting

OVERVIEWING II

Job Sheet #4

OBJECTIVE: To overview a chapter in a textbook without writing all the information down.

MATERIALS: Spence, William P., Architecture, Design, Engineering and Drawing. Chapter 11, "Getting the House Built."

PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. If you have correctly followed the process of overviewing a chapter, you should now be able to state the purpose of this chapter without having to write out all the information you listed in Job Sheets #1 and #2. Complete the following statement:

The purpose of this chapter is

66

BEST COPY AVAILABLE

READING SKILLS - Draft
PREVIEWING

Job Sheet #1

OBJECTIVE: To develop the skill of previewing an article.

Overviewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article, or a booklet to get a more specific idea of its contents. You now read the title, headings, and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS:
1. Magazine articles, "Flexible Space"
2. Pen or pencil.

PROCEDURE:
1. Go to the file cabinet and obtain the magazine article.
2. Preview the assigned material using the following as your guide.
   - a. Read the title.
   - b. Read the headings and subheadings.
   - c. Read the first and last paragraphs.
   - d. Read words, phrases, and sentences in boldface, italia, or other special type.
   - e. Read any summary that you might find.
   - f. Look at the pictures, tables, maps, and graphs. Read the captions.
3. Answer the following questions only as they apply to this manual.
   - a. The title of the article is ______________________________.
   - b. The article deals with ______________________________.
   - c. The first main heading of the article tells ______________ ______________________________
   - d. What is the second main heading of the article?
   - e. How do the illustrations, pictures, or diagrams help?
   - f. What kind of lists can you find in this article, and for what would they be useful?
4. Return the article to the file cabinet.

Job Sheet #2

OBJECTIVE: To develop the skill of previewing an article.

Overviewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article, or a booklet to get a more specific idea of its contents. You now read the title, headings and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS:
1. Magazine article, "New Idiom of Strength and Texture"
2. Pen

PROCEDURE:
1. Go to the file and obtain the magazine article, "New Idiom of Strength and Texture"
2. Previewing in the assigned material using the following as your guide:
   a. Read the title
   b. Read the heading and subheading
   c. Read the first and last paragraphs
   d. Read words, phrases, and sentences in boldface, italia, or other special type.
   e. Read any summary that you might find.
   f. Look at the pictures, tables, maps, and graphs. Read the captions.
3. Answer the following questions only as they apply to this article.
   a. The title of the article is ______________________________.
   b. The article deals with ______________________________.
   c. The first main heading of the article tells ______________
      ____
   d. What is second main heading of the article?
   e. How do the illustrations, pictures, or diagrams help you?
   f. What kinds of lists can you find in this article, and for what would they be useful.
4. Return the article to the file cabinet.

BEST COPY AVAILABLE

Job Sheet #3

OBJECTIVE: To develop the skill of previewing an article.

Overviewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article, or a booklet to get a more specific idea of its contents. You now read the title, headings and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS:
1. Magazine article, "Current work; New Mexico and Utah"
2. Preview the assigned material, using the following as your guide.
    a. Read the title.
    b. Read the headings and subheadings.
    c. Read the first and last paragraphs.
    d. Read words, phrases, and sentences in boldface, italia, or other special type.
    e. Read any summary that you might find.
    f. Look at the pictures, tables, maps, and graphs. Read the captions.
3. Answer the following questions only as they apply to this article.
    a. The title of the article is ______________________________
    b. The article deals with ______________________________
    c. The first main heading of the article tells ______________ ______________________________
    d. What is the second main heading of the article?
    e. How do the illustrations, pictures, and diagrams help?
    f. What kinds of lists can you find in this article, and for what would they be useful?
4. Return the article to the file cabinet.

Job Sheet #4

OBJECTIVE: To develop the skill of previewing an article.

Overviewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, or a booklet to get a more specific idea of its contents. You now read the title, headings and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS:
1. Magazine article, "Techniques: Western Parking Garages"
2. Pen

PROCEDURE:
1. Go to the file cabinet and obtain the magazine article.
2. Preview the assigned material using the following as your quide:
   a. Read the title.
   b. Read the headings and subheadings.
   c. Read the first and last paragraphs.
   d. Read the words, phrases, and sentences in boldface, italia, or other special type.
   e. Read any summary you might find.
   f. Look at the pictures, tables, maps, and graphs. Read the captions.
3. Answer the following questions only as they apply to this material.
   a. The title of the article is ______________________.
   b. The article deals with ______________________.
   c. The first main heading of the article tells ________
   ____
   d. What is the second main heading of the article ______
   ____
   e. How do the illustrations, pictures, or diagrams help?
   f. What kinds of lists can you find in this article and for what would they be useful?
4. Return the article to the file cabinet when you finish.

READING SKILLS - Draft.
SCANNING - I

Job Sheet #1

OBJECTIVE: To develop the skill of scanning for specific facts

Scanning is planned hunt-skip-read process for finding specific facts, names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it.

When you scan for a specific fact, you do very little reading. Instead, you allow your eyes to move rapidly over the material until you find what you are looking for.

MATERIALS:
1. Hepler & Wallach, Architecture, Drafting and Design, "Area Planning," pp. 10-24
2. Pen

PROCEDURE:
1. Read the questions below, and scan for the answers one at a time, following these guides:
   a. Keep clearly in mind the question you want answered.
   b. Decide in what form the answer should appear. For example should the answer be a word, a name, a number, or a date?
   c. Move your eyes quickly over the page, looking for your clues.
   d. When you find what you think is the answer, read more carefully.
   e. Stop reading when you have found the correct answer.
   f. Record the answer in the space provdied.
2. Time yourself. You should be able to scan the material and answer the questions in ________ minutes.

QUESTIONS:
1. When an architect designs a school building, what are the areas involved?
2. What is meant by a closed plan?
3. What are the means of closing an open plan living room in order to provide privacy?
4. What is one major separation that can divide living room and dining room other than a wall?
5. The living room should appear inviting comfortable, and spacious. This appearance can be accomplished by:
   1. ____________________ 2. ____________________
   3. ____________________
6. Living room lighting is divided into two types:
   1. ____________________ 2. ____________________
7. What is the function of a dining room?

Job Sheet #2

OBJECTIVE: To develop the skill of scanning for specific facts

Scanning is a planned hunt-skip-read process for finding specific facts, names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it.

When you scan for a specific fact, you do very little reading. Instead, you allow your eyes to move rapidly over the material until you find what you are looking for.

MATERIALS: French & Svensen, Mechanical Drawing, pp. 295-306
Pen

PROCEDURE:

1. Read the questions below, and scan for the answers, one at a time, following these guides:
    - a. Keep clearly in mind the questions you want answered.
    - b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date?
    - c. Move your eyes quickly over the page, looking for your clues.
    - d. When you find what you think is the answer, read more carefully.
    - e. Stop reading when you have found the correct answer.
    - f. Record the answer in the space provided.
2. Time yourself. You should be able to scan the material and answer the question in ________ minutes.

QUESTIONS:

1. Give two considerations of a general design?
2. What kind of lettering is needed in making an architectural working drawing?
3. Give two criteria in house styles regarding construction, appearance of the house.
4. State at least 3 characteristics of a Georgian house.
5. Write 2 examples of contemporary architecture.
6. What is a thumbnail sketch?
7. What are the parts of a working drawing?

READING SKILLS - Draft.
Scanning - I

Job Sheet #3

OBJECTIVE: To develop the skill of scanning for specific facts

Scanning is a planned hunt-skip-read process for finding specific facts, names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it.

When you scan for a specific fact, you do the little reading. Instead, you allow your eyes to move rapidly over the material until you find what you are looking for.

MATERIALS: Hepler & Wallach, Architecture, Drafting and Design, "Area Planning" pp. 28-40

PROCEDURE:

1. Read the questions below, and scan for the answers, one at a time, following these guides:
    a. Keep clearly in mind the questions you want answered.
    b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number or a date?
    c. Move your eyes quickly over the page, looking for your clues.
    d. When you find what you think is the answer, read more carefully.
    e. Stop reading when you have found the correct answer.
    f. Record the answer in the space provided.
2. Time yuurself. You should be able to scan the material and answer the questions in _______ minutes.

QUESTIONS:

1. What is the purpose of the family room?
2. What are the recommended materials to keep the noise of the various activities from spreading to other parts of the house.
3. Other than recreation room, give two names that apply to it.
    1. ____________________ 2. ____________________
4. A covered platform leading into an entrance of a building is called ____________________________.
5. Large porches extending around several sides of a home are called?
6. A projection from a building similar to a porch is known as?
    ____
7. The portion of a house which is a place adjacent or directly accessible to the house is called?
8. Loggia, breezeway, and terrace are other names applied to the ____________________________.

READING SKILLS - Draft.
SCANNING - I

Job Sheet #4

OBJECTIVE: To develop the skill of scanning for specific facts.

Scanning is a planned hunt-skip-read process for finding specific facts, names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the way to do it.

When you scan for a specific fact, you do very little reading. Instead, you allow your eyes to move rapidly over the material until you find what you are looking for.

MATERIALS: Hepler-Wallach, Architecture, Drafting and Design, Area Planning"
pp. 49-56
Pen

PROCEDURE:

1. Read the questions below, and scan for the answers, one at time, following these guides:
   - a. Keep clearly in mind the questions you want answered.
   - b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date?
   - c. Move your eyes quickly over the page, looking for your clues.
   - d. When you find what you think is the answer, read more carefully.
   - e. Stop reading when you found the correct answer.
   - f. Record the answer in the space provided.
2. Time yourself. You should be able to scan the material and answer the questions in ____________minutes.

QUESTIONS:

1. What is the Hawaiian word for porch?
2. Enumerate five areas that are involved in the traffic areas of a house?
3. Name one method of determining the effectiveness of the traffic pattern of a house.
4. What are the requirements in building a hallway in the house?
5. What do stairs provide?
6. State some considerations in designing stairs.
7. The overall width of the stairs is the distance across the tread a minimum of 3 feet is allowed. However, a width of ____________ and ____________ are preferred.

READING SKILLS - Drafting
SCANNING II

Job Sheet # 1

OBJECTIVE: To develop the skill of scanning for numerical facts.

MATERIALS: French & Vierck. Engineering Drawing. (10th edition) See Appendix D - A 62 - A - 79

PROCEDURE:
1. In Appendix D is a table of Decimal of Equivalents.
2. Scan the table for answers to the questions which are below.
3. Time yourself. You should be able to scan the table and answer questions 1-8 in ____________ minutes.

QUESTIONS:

1. How many threads per inch does a 5/16 diameter bolt contain?
2. With a coarse thread series 6 and 1 1/2 diameter bolt, what size of tap drill is needed?
3. What is the basic diameter wood screw with a nominal size of 16?
4. What is the outside and inside diameter of a washer, size 24?
5. What is the minimum thickness of lock washer having 5/16 diameter and specified as heavy duty?
6. Define taper:
7. In Morse Taper series, the diameter of gage line is 1.500 and the No. of taper is 4½, what is the taper in foot?
8. A wire with 28 gage, what is the equivalent gage as in imperial wire gage?

READING SKILLS - Drafting
SCANNING II

Job Sheet # 2

OBJECTIVE: To develop the skill of scanning for numerical facts.

MATERIALS: Douglas Fir Use Book.
Structural Data & Design Tables, pp. 60-63.

PROCEDURE:
1. On the specified pages is a table of sawn lumber.
2. Scan the table for answers to the questions which are below.
3. Time yourself. You should be able to scan the table and answer questions 1-8 in ____________ minutes.

QUESTIONS:
1. What is the size of a surface stock with anominal dimension of 6X10?
2. How many board foot per lineal foot does a piece for a beam having a measurement of 6 x 18 contain?
3. With a nominal sizes of joist 3 x 8, what is the moment of inertia and deflection?
4. What is the area of a 18 x 28 beam?
5. Find the sizes of the joists with 1,803,000 moment of resistance, and 1,200 fiber stress.
6. Find the section modulus of a stock with 2,547,000 moment of resistance.
7. What is the surfaced size of 14 x 24 beam?
8. What size of plank is needed to have a plank with 3,040 fiber stress?

Record Time ______________

.8276

Job Sheet # 3

OBJECTIVE: To develop the skill of scanning for numerical facts.

MATERIALS: Hepler & Wallach. Architecture, Drafting & Design. Pages 90-99.

PROCEDURE:
1. On the specified pages is a table of standard dimensions.
2. Scan the table for answers to the questions which are below.
3. Time yourself. You should be able to scan the table and answer questions 1-5 in ________ minutes.

QUESTIONS:
1. What is the minimum depth for wardrobe closets?
2. What is a wardrobe closet?
3. Enumerate two parts of a room divider?
   a. ______________
   b. ______________
4. The primary function of a bedroom is to provide facilities for sleeping. What other function does it provide?
5. List the furniture a minimum size bedroom should accomodate.
6. The wall space needed for twin beds is ________________.
7. The average square footage of a small bedroom is from __________ to ___________ square feet.
8. When complete soundproofing is desired, what materials are needed?

Record Time ______________

Job Sheet #4

OBJECTIVE: To develop the skill of scanning for numerical facts.

MATERIALS: Douglas Fir Use Book
Uniformly Distributed Loads for Joist and Beam pg. 76-93

PROCEDURE:
1. In the Douglas Fir Use Book locate the sizes, fober, stresses, shear stress in pounds per square inch.
2. Scan the table for answers to the questions listed below.
3. Time yourself. Record your time in the space below.

QUESTIONS:

1. What is the total load in pounds, including the weight of the beam if you will use 2x4 material with a 3'0" span and having a 1200 fiber stress?

2. What is the modulus of elasticity of a beam at a deflection of 1/360 of the span, the total load in pounds, including weight of the beam.

3. What is the load in pounds per lineal foot, including weight of beam per foot, for a 2x6 material with a 1750 stresses and 7'0" span?

4. A 6'0" span with a 3,150 pounds beam, including the weight of it, what size of beam is required?

5. What's the weight in pounds per foot of a 6/10 beam with a span of 6'0"?

6. With a 2,050 stress on a 7'0" span beam, using 6x18 beam, what is the total load in pounds including the weight of it?

7. A joist with 18,500 pounds per lineal foot, with a 9'0" span, requires what size of joist?

SCANNING III

Job Sheet #1

OBJECTIVE: To develop the skill of scanning for a name and number.

MATERIALS: *Architecture, Drafting and Design.*
Unit 71. "Building Costs", Pp. 459-463

PROCEDURE:
1. You are to scan a list of cost analysis.
2. Read the questions that follow in the list below.
3. Scan for the answers, one question at a time.
4. Time yourself. Note your time on your Record Sheet.

QUESTIONS:

1. Approximately 40 percent of the cost of the average home is for materials. What is the distributed cost for labor and lot?

2. What are two basic methods of determining the cost of a house?

   a.

   b.

3. In addition to these aforementioned methods enumerate three more methods.

   a.

   b.

   c.

4. What is F.H.A.?

5. The cubic foot method of determining the cost of building a house is multiplying the cubic volume and the construction cost. If the total cubic volume is 14,400 cu. ft., what is the total cost?

   ____

   ____

6. In accordance with the Engineering News Record, what is the price of accoustical ceilings and structural frames?

   a. Structural frames ________________

   b. Accoustical ceilings ______________

7. The lawyer's, architect's, and surveyor's fees are sometimes included in the closing costs. State the average closing cost fees of the above mentioned.

   a. Lawyer ______________ b. Surveyor ______________

   c. Architect ________________

READING SKILLS - Draft.

SCANNING III

Job Sheet #2

OBJECTIVE: To develop the skill of scanning for a name and number.

MATERIALS: Architecture, Drafting and Design.
Section 19, Pp. 452-459
Pen

PROCEDURE:
1. You are to scan methods of checking.
2. Read the questions that follow below.
3. Scan for the answers, one question at a time.
4. Time yourself. Note time on your record sheet.

QUESTIONS:

1. Give one method of determining the adequacy of room sizes and give proportions.

   ____

2. Give the sizes of the following:

   a. Freezer ____________________

   b. 8 cubic foot refrigerator ____________________

   c. Stove ____________________

   d. Dryer ________________

   e. Double Bed __________________

   f. Vanity ____________________

   g. Corner Bathtub ___________________

   h. Large Sofa ___________________

   i. Dining table for eight persons _________________

   j. Round dining table for six persons _________________

3. One of the most effective methods of checking architectural drawings is

   ____

READING SKILLS - Draft.
SCIMMING FOR MAIN IDEAS

Job Sheet #1

OBJECTIVE: To develop the skill of skimming for main ideas

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writer. You still don't read every word, but you now go deeper into the material than before.

MATERIALS: French, Thomas, Engineering Drawing, Chapter 6, p. 157

PROCEDURE:

1. Skim the chapter for the main idea.
   a. Read the title.
   b. Read the headings and subheadings.
   c. Read the first sentence of every paragraph.
   d. Read the last sentence of every paragraph.
2. Answer these questions.
   a. When details are not clearly presented in orthographic projection, what type of illustration can be used in order to show them clearly?
   b. Theoratically what type of projection is similar to axonometric projection?
   c. What pictorial drawing is the simplest to draw?
   d. What are nonisometric lines?
   e. What method of drawing is used in presenting an object with many nonisometric lines?
   f. What axonometric drawing is seldom used, due to the difficulty of presenting circles in the projection?
   g. What projection or pictorial drawing has axeses which are unequally foreshortened?

READING SKILLS - Draft.
SKIMMING FOR MAIN IDEAS

Job Sheet # 2

OBJECTIVE: To develop the skill of skimming for main ideas

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writer. You still don't read every word, but you now go deeper into the material than before.

MATERIALS: Hepler and Wallach. *Architecture - Drafting and Design*
Unit 24, pp. 145-151

PROCEDURE:

1. Skim the assigned unit for the main idea.
   - a. Read the title.
   - b. Read the headings and subheadings.
   - c. Read the first sentence of every paragraph.
   - d. Read the last sentence of every paragraph.
2. Answer these questions.
   - a. How do architects and designers develop and record their ideas?
   - b. What rooms and facilities are placed in the basement?
   - c. What is the preliminary step in designing the floor plan?
   - d. What is meant by closed plan?
   - e. Where is the open plan mostly used?
   - f. Why is it desirable to construct a house over a long period of time?
   - g. What part of the house can be added in the future years of need?
   - h. Before the initial construction begins, what part of the plan should be drawn?

Job Sheet # 3

OBJECTIVE: To develop the skill of skimming for main ideas

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writers. You still don't read every word, but you now go deeper into the material than before.

MATERIALS: French, Thomas, Engineering Drawing, Chapter 10, pp. 289-299

PROCEDURE:

1. Read the title.
2. Read the headings and subheadings.
3. Read the first sentence of every paragraph.
4. Read the last sentence of every paragraph.
5. Answer the questions below.

QUESTIONS:

1. For the production of any part a ________________________ is necessary, complete with shape and size description and giving, where needed, the operations that are to be performed by the ______________________.
2. What is a casting drawing?
3. ________________________ are made of cast iron, coated on the molding surfaces with a refractory material.
4. Types of operations that are made by heating metal to make it plastic and then forming it to shape on a power hammer with or without the aid of special steel dies are called ________________.
5. Name two classes of machining methods in accordance with the operating principle of the machine performing the work.
   a.
   b.
6. A machine capable of producing all other machine tools is called a ________.
7. The general purpose of grinding is to make a _____________ and more ___________, _______________ than can be obtained by turning, planing, and milling.
8. What is a broach?
9. The processing of metals by heat and chemicals to change the physical properties of the material is called ____________.
10. Careful ____________ is an important feature of modern production.

READING SKILLS - Draft.
SKIMMING FOR MAIN IDEAS

Job Sheet # 4

OBJECTIVE: To develop the skill of skimming for main ideas

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writers. You still don't read every word, but you now go deeper into the material than before.

MATERIALS: Hepler and Wallach, Architecture - Drafting and Design, Unit 35, pp. 218-232

PROCEDURE:
1. Read the title.
2. Read the headings and subheadings.
3. Read the first sentence of every paragraph.
4. Read the last sentence of every paragraph.
5. Answer the questions below.

QUESTIONS:
1. What are the two main purposes of drawing a plot plan?
   a.
   b.
2. The plan showing the types and location of vegetation for the lot is called ____________________.
3. Give two reasons why landscaping a lot may be prolonged through several years.
   a.
   b.
4. Define survey:
5. A survey drawing should be ______________, and should do what? ____.
6. What is lot dimension?
7. The angle of each property line from north is known as an ____________________.
8. What is a transit?
9. A drawing board mounted on a tripod is called a ______________.
10. Geographical survey maps show the general contour of the area, including ______________ features of the terrain such as ________________ and ______________.

Job Sheet # 5

OBJECTIVE: To check how well you have learned the procedure of skimming

MATERIALS: Miller, James Nathan, "It's a Dead-End Road for the Dropout"

PROCEDURE:

1. Obtain the specified article from the file.
2. Follow the skimming procedure you have been practicing in the preceding job sheets, and skim the article.
3. Answer the questions below.

QUESTIONS:

1. What happens to the person who tries to "fake" having a high school diploma?
2. List three reasons why students often drop out of school, according to the article:
   a. ______________________________
   b. ______________________________
   c. ______________________________
3. Compare working conditions and school conditions as often experienced by the dropout.

   How do they differ?

   In what ways are they alike?
4. Some jobs are "learning by doing" situations where the employer trains you. Are these increasing or decreasing?

   Are there more or less people in competition for these jobs?
5. The article states that the high school diploma has come to mean three things. Name them.
   a. ______________________________
   b. ______________________________
   c. ______________________________
6. A high school dropout can always enlist in the Army if he can't find a job. Yes _____ No ______

   Explain your answer.
7. An employer from Portland, Oregon, is quoted on his feelings regarding the hiring of dropouts. Summarize what he says.

READING SKILLS - Draft.
ORGANIZING WHAT YOU HAVE READ
Classification

Job Sheet #1

OBJECTIVE: To be able to identify a classification pattern, its subdivisions, and the differentiating characteristics of each.

MATERIALS: French and Wierck, Engineering Drawing, p. 18, fig. 2.2 and p. 19, sect. 2.9

PROCEDURE:

1. The selection assigned is a classification article about drafting pencils.
2. The caption under the illustration tells you what the general pencil classifications are.
3. Scan the article to find the general classifications.
4. Now read the article carefully to find the sub-divisions.
5. In the outline below fill in the correct sub-divisions.

I. Kinds of pencils
    A. ____________________
    B. ____________________
II. Grading of pencils
    A. Soft
        1. ____________________ (list)
    B. Medium
        1. ____________________ (list)
    C. Hard
        1. ____________________
III. Uses for graded pencils
    A. Soft
        1. ____________________
        2. ____________________
    B. Hard
        1. ____________________

READING SKILLS - Draft.
ORGANIZING WHAT YOU HAVE READ
Classification

Job Sheet #2

OBJECTIVE: To be able to identify a classification pattern, its subdivisions, and the differentiating characteristics of each.

MATERIALS: French and Wierck, Engineering Drawing, pp. 40-42, "Classification of Alphabet of Lines."

PROCEDURE:
1. The selection assigned is a classification article about Alphabet of Lines.
2. The drawings for the Alphabet of Lines tell you about kinds of lines.
3. Scan the section, "The Alphabet of Lines," to find the two types of drawing lines.
4. Examine the drawings and read the article #2.39.
5. Fill in the sub-headings in the outline below.

I. Kinds of drawings

A. ____________________

B. ____________________

II. Widths of lines for finished drawings

A. ____________________

B. ____________________

C. ____________________

Job Sheet #1

OBJECTIVE: To become familiar with the format and purpose of ENGINEER

MATERIALS: 3 issues of ENGINEER

PROCEDURE: Note: To complete this job sheet you will be expected to make use of all the reading skills you have been practicing.

1. Go to the file and choose any 3 issues of ENGINEER.
2. Overview each issue of the magazine.
3. Preview each section.
4. Answer the following questions.
5. Return the magazines to the file.

QUESTIONS:

1. Who publishes ENGINEER?
2. For whom is it published?
3. Where is it published?
4. How often is it published?
5. What is the price of a subscription?
6. To become familiar with the magazine, examine all the part: List below the special sections which appear in each issue.

7. How many pages are in an average issue?
8. Examine the advertising in ENGINEER. List below four specialized products which you find advertised.

a.
b.
c.
d.

9. On the basis of your overviewing and previewing, state in your own words what you consider to be the purpose of ENGINEER.

Job Sheet #2

OBJECTIVE: To skim and to comment on a variety of articles which appear in ENGINEER.

MATERIALS: 3 issves of ENGINEER

PROCEDURE:
1. Go to the file and obtain any 3 issues of ENGINEER.
2. Skim a variety of articles as suggested in the questions below.
3. Answer the questions.
4. Return the magazines to the file.

SPECIAL ARTICLES:

1. Skim one feature article. State the title of the article and the issue (date) in which it appears.

   In your own words, state what the article is about and what information you learned by skimming it.

2. Skim one editorial. State the issue (date) in which it appears.

   In your own words, state the topic which the editorial discusses and the position which the writer takes.

3. Examine the "New Products" section. In your own words describe a a product which is featured which you have never heard of before.

4. What is the Reader Service card? How does it work?

5. Read one Letter to the Editor. What is the writer saying in his letter?

6. List four ways in which reading ENGINEER would be useful to a draftsman or an engineer.

   1.
   2.
   3.
   4.

READING SKILLS - Elec.
OVERVIEWING I

Job Sheet # 1

OBJECTIVE: To develop the skill of overviewing a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1). To examine new material to find out what it contains, and (2). To determine whether a specific book contains information you want.

MATERIALS: Zbar, Paul, Industrial Electronics.

PROCEDURE: 1. Imagine you are looking at this book for the first time and want to find out what it contains.

2. Read the title.

3. Quickly scan:

(a). the table of contents
(b). the preface or forward
(c). the introduction
(d). the pictures, maps, graphs, or tables
(e). the appendix
(f). the index

4. Record your findings below:

(a). The title of this book is ________________________________

(b). Read the introduction and in your own words state the purpose of the book.

(c). The table of contents shows that this book contains ________ (no) of sections, broken down into _______ (no.) of chapters.

(d). Your overview shows that this book also contains the following:
Check if applicable

(1). index ______________
(2). appendix ______________
(3). introduction ______________
(4). other (list) ______________

5. From your overview state the purpose for which you believe this book would be useful.

(1).
(2).
(3).

Job Sheet #2

OBJECTIVE: To develop the skill of overviewing a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific book contains information you want.

MATERIALS: Kiver, Milton, Transistors.

PROCEDURE: Imagine you are looking at this book for the first time and want to find out what it contains.

1. Read the title.
2. Quickly scan:
   a. The table of contents
   b. The preface or forward
   c. The introduction
   d. The pictures, maps, graphs, or tables
   e. The appendix
   f. The index
3. Record your findings below:

   a. The title of this book is ________________________________.

   b. Read the introduction and in your own words state the purpose of the book:

   c. The table of contents shows that this book contains ____________ (no) of sections, broken down into ___________ (no) of chapters.

   d. Your overview shows that this book also contains the following:

	Check if applicable
1. Index	______________
2. Appendix	______________
3. Introduction	______________
4. Other (list)	

   e. From your overview, state the purpose for which you believe this book would be useful:

   1.

   2.

   3.

Job Sheet #3

OBJECTIVE: To develop the skill of overviewing a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) to examine new material to find out what it contains, and (2) to determine whether a specific book contains information you want.

MATERIALS: Duarte and Duarte, Electronics Assembly Methods.

PROCEDURE: Imagine you are looking at this book for the first time and want to find out what it contains.

1. Read the title.
2. Quickly scan:
   a. The table of contents
   b. The preface or forward
   c. The introduction
   d. The pictures, maps, graphs, or tables
   e. The appendix
   f. The index

3. Record your findings below:

   a. The title of this book is ________________________________.

   b. Read the introduction and in your own words state the purpose of the book.

   c. The table of contents shows that this book contains ____________ (no) of sections broken down into __________ (no) of chapters.

   d. Your overview shows that this book also contains the following:

	Check if applicable
1. Index	____________
2. Appendix	____________
3. Introduction	____________
4. Other (list)	____________

   e. From your overview, state the purpose for which you believe this book would be useful:

   1.

   2.

   3.

92

Job Sheet #4

OBJECTIVE: To develop the skill of overviewing a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific book contains information you want.

MATERIALS: Faber, Rodney B. and Heiserman, Rusell L. Introduction to Amplifier

PROCEDURE: Imagine you are looking at this book for the first time and want to find out what it contains.

1. Read the title.
2. Quickly scan:
    - a. The table of contents
    - b. The preface or forward
    - c. The introduction
    - d. The pictures, maps, graphs, or tables
    - e. The appendix
    - f. The index
3. Record your findings below:
    - a. The title of this book is ______________________________.
    - b. Read the introduction and in your own words state the purpose of the book.
    - c. The table of contents shows that this book contains __________ (no) of sections broken down into __________ (no) of chapters.
    - d. Your overview shows that this book also contains the following:

      Check if applicable

      1. Index __________
      2. Appendix __________
      3. Introduction __________
      4. Other (list)
    - e. From your overview, state the purpose for which you believe this book would be useful:

      1.

      2.

      3.

Job Sheet #1

OBJECTIVE: To develop the skill of overviewing a chapter in a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific chapter contains information which you want and need.

MATERIALS: Introduction to Amplifiers, Exp. #4, "An Introduction to Tube Amplifiers."

PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. Record your findings below:

a. The title of this chapter is ______________________________

b. This chapter is divided into __________ of sections.
no.

c. Most chapters indicate in the opening paragraphs what the chapter will be about. Read the first paragraphs of this chapter and in your own words state its purpose;

d. List all the bold-face headings which develop the chapter:

e. State the technical purposes for which the information in this chapter would be useful:

Job Sheet #2

OBJECTIVE: To develop the skill of overviewing a chapter in a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is typing without reading every word he has written. There are two reasons for overviewing; (1) To examine new material to find out what it contains, and (2) To determine what a specific chapter contains information which you want and need.

MATERIALS: Introduction to amplifiers, Exp. 15, "Introduction to graphical analysisi of a transitor amplifier"

PROCEDURE: Overview the chapter as follows;

1. Read the title.
2. Read the boldface heading.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc.
. Read the captions.
5. Record your findings below:

a. The title of this chapter is ______________________________

b. This chapter is divided into _____ of sections.
no.

c. Most chapters indicate in the opening paragraphs what the chapter will be about. Read the first paragraphs of this chapter and in your own words state its purpose:

d. List all the bold-face headings which develop the chapter:

c. State the technical purposes for which the information in this chapter would be useful:

Job Sheet #3

OBJECTIVE: To overview a chapter in a textbook without writing all the information down.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific chapter contains information which you want and need.

MATERIALS: Electronics in Action, Circuit 11, "The Oscilloscope"

PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the boldface heading.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. If you have correctly followed the process of overviewing, you should now be able to state the purpose of this chapter without having to write out all the information you listed in Job Sheet #1 and #2.

The purpose of this chapter is:

OVERVIEWING II

JOB SHEET #4

OBJECTIVE: To overview a chapter in a textbook without writing all the information down.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific chapter contains information which you want and need.

MATERIALS: Electronics in Action, Circuit 27, "Introduction to Transistors"

PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. If you have correctly followed the process of overviewing, you should now be able to state the purpose of this chapter without having to write out all the information you listed in Job Sheets #1 and #2.

The purpose of this chapter is:

BEST COPY AVAILABLE

READING SKILL - Elec.
PREVIEWING

Job Sheet #1

OBJECTIVE: To develop the skill of previewing a chapter.

Overviewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article, or a booklet to get a more specific idea of its contents. You now read the title, headings, and subheadings, words in special type, captions, and notes, Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like textbooks. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS: Color T.V. Servicing Made Easy, Vol. 2, Sams Publication.

PROCEDURE:
1. Go to the library and obtain a copy of the above book.
2. Do not check this book out of the library; work on this job sheet in the library.
3. Preview chapter 2 of the assigned book as follows:
    a. Read the title.
    b. Read the heading and subheadings.
    c. Read the first and last paragraphs.
    d. Read words, phrases, and sentences in boldface, italics, or other special type.
    e. Read any summary that you might find.
    f. Look at the pictures, tables, maps, and graphs. Read the captions.
4. Answer the following questions:
    a. The title of this chapter is ______________________________
    b. The chapter deals with ______________________________
    c. The first main heading of the chapter tells ______________________________
    d. What is the second main heading of the chapter?
    e. What information can you expect under this heading?
    f. What kinds of lists can you find in this chapter, and for what would they be useful?
    g. For what purpose would the information in this chapter be useful?
5. Return the book to the library desk.

BEST COPY AVAILABLE

READING SKILLS - Elec.
PREVIEWING

Job Sheet #2

OBJECTIVE: To develop the skill of previewing a chapter.

Overviewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article or a booklet to get a more specific idea of its contents. You now read the title, headings, and subheadings, words in special type, captions, and notes.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS: Davis, Speaker-Enclosures, Howard Sams & Co.

PROCEDURE:
1. Go to the library and obtain a copy of the above book.
2. Do not check this book out of the library; work in the library.
3. Preview chapter 1 in the assigned book as follows:
   a. Read the title.
   b. Read the headings and subheadings.
   c. Read the first and last paragraphs.
   d. Read words, phrases, and sentences in boldface, italics, or other special type.
   e. Read any summary that you might find.
   f. Look at the pictures, tables, maps and graphs. Read the captions.
4. Answer the following questions:
   a. The title of this chapter is ______________________________.
   b. The chapter deals with ______________________________
      ____
   c. The first main heading of the chapter is ______________
      ____
   d. What is the second main heading in the chapter?
   e. What information can you expect under this heading?
   f. What kinds of lists can you find in this chapter, and for what would they be useful?
   g. For what purpose would the information in this chapter be useful?
5. Return the book to the library desk.

READING SKILLS - Elec.
PREVIEWING

Job Sheet #3

OBJECTIVE: To develop the skill of previewing a chapter.

Overviewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article, or a booklet to get a more specific idea of its contents. You now read the title, headings, and subheading, words in specific type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy materials, like textbooks. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS: Badamieff & Davis, Speaker-Enclosures, Howard Sams & Co.

PROCEDURES:
1. Go to the library and obtain a copy of the above book.
2. Do not check this book out of the library; work on this job sheet in the library.
3. Preview the chapter entitled "Crossover Networks," as follows:
   a. Read the title.
   b. Read the headings and subheadings.
   c. Read the first and last paragraphs.
   d. Read words, phrases, and sentences in boldface, italics, or other special type.
   e. Read any summary that you might find.
   f. Look at the pictures, tables, maps, and graphs. Read the captions.
4. Answer the following questions:
   a. The title of the chapter is ______________________________
   b. The chapter deals with ______________________________
   ____
   c. The first main heading of the chapter tells ______________________________
   ____
   d. What is the second main heading in the chapter?
   e. What kinds of lists can you find in this chapter, and for what would they be used?
   f. Summarize in your own words the information contained in this chapter and the purposes for which it would be useful?
5. Return the book to the library desk.

READING SKILLS - Elec.
SCANNING

Pre-Test

OBJECTIVE: The purpose of the Scanning Pre-Test is to help you become aware of the importance of having skills in locating specific information both quickly and accurately.

PROCEDURE:
1. Obtain from the file a copy of the article "What to look for in a Miniscreen TV"
2. When you begin the test, record your time on the line provided.
3. Working as rapidly as possible, find all the information asked for in each questions.
4. When you finish the Pre-Test record your time and figure the total time it took you to do this. Put your total time in the space provided on your record sheet.

BEGINNING TIME ____________
CONCLUDING TIME ____________
TOTAL TIME ____________

QUESTIONS:
1. One manufacturer boasts that his miniscreen set contains ________ number of solid state devices.
2. What is the size of the smallest TV screen made? ____________
3. How many ways can a portable TV be powered? ____________
4. What is the basic cost for a battery pack for a TV set? ________
5. The antenna on most miniscreen TV sets is a single rod. What is it called? ____________
6. Is a color miniscreen available? ____________
7. List three other features available with a miniscreen TV:
   a. ____________________
   b. ____________________
   c. ____________________
8. Do all sets come with UHF? ____________________
9. What channels does UHF cover? ________________
10. What is the name of the new color picture tube which will be used in miniscreen TV? ________________
11. Give the typical price of an eight-inch black-and-white T.V. ____________
12. What is the highest price that you can pay for a miniscreen T.V. ________________
13. A T.V. is classified as a miniscreen if it measures less than ____________ square inches.
14. How many transistors does a miniscreen TV contain?
15. How many times can the battery which comes with a miniscreen TV be recharged? ____________________
16. List three problems encountered when putting a miniscreen T.V. in a car or boat:
   a. ____________________
   b. ____________________
   c. ____________________

Job Sheet #1

OBJECTIVE: To develop the skill of scanning for specific facts

Scanning is a planned hunt-skip-read process for finding specific facts, names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it.

When you scan for a specific fact, you do very little reading. Instead, you allow your eyes to move rapidly over the material until you find what you are looking for.

MATERIALS: ZBar, Paul, Electricity-Electronics Fundamentals: A Test-Lab Manual Exp. #1

PROCEDURE:

1. Read the following questions, and scan for the answers one at a time, following these guides:
    - a. Keep clearly in mind the question you want to answer.
    - b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date?
    - c. Move your eyes quickly over the page, looking for your clues.
    - d. When you find what you think is the answer, read more carefully.
    - e. Stop reading when you have found the correct answer.
    - f. Record the answer is the space provided.
2. Time yourself. Note your time on your record sheet.

QUESTIONS:

1. How is the resistance value of a resistor identified?
2. How is the capacitance value of a capacitor identified?
3. What is the difference in basing between an octal tube and a 7 pin miniature?
4. How many leads are there is a resistor? In a capacitor?
5. Why is a power transformer so heavy?
6. List three ways in which transistors are used?
    - a.
    - b.
    - c.
7. What do the letters EIA stand for?

READING SKILLS - Elec.
SCANNING I

Job Sheet #2

OBJECTIVE: To develop the skill of scanning for specific facts

Scanning is a planned hunt-skip-read process for finding specific facts—names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it.

When you **scan** for a specific fact, you do very little reading. Instead, you allow your eyes to move rapidly over the material until you have found what you are looking for.

MATERIALS: ZBar, Paul, Electricity-Electronics Fundamentals: A Text-Lab Manual. Exp. #3

PROCEDURE:

1. Read the questions below, and scan for the answers one at a time, following these guides:
    a. Keep clearly in mind the question you want answered.
    b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date?
    c. Move your eyes quickly over the page, looking for your clues.
    d. When you find what you think is the answer, read more carefully.
    e. **Stop** reading when you have found the correct answer.
    f. Record your answer in the space provided.
2. Time yourself. Note your time on your record sheet.

QUESTIONS:

1. List the hand tools which an electronics technician uses. State the purpose of each.

Tool	Purpose

2. How does a soldering pencil differ from a soldering gun?
3. Does the diameter of a wire affect its current carrying capacity?
4. Where is coaxial cable used?
5. What is the braided shield on coaxial cable for?
6. What is a heat sink?
7. What is a heat sink used for?
8. What is the difference between standard and solid hook-up wire?
9. What is the wattage of heavier soldering irons?
10. What is the wattage of a popular soldering gun?

Job Sheet #3

OBJECTIVE: To develop the skill of scanning for specific facts

Scanning is a planned hunt-skip-read process for finding specific facts—names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it.

When you scan for a specific fact, you do very little reading. Instead you allow your eyes to move rapidly over the material until you find what you are looking for.

MATERIALS: ZBar, Paul, Electricity-Electronics Fundamentals: A Text-Lab Manual Exp. #4

PROCEDURE:

1. Read the questions below, and scan for the answers one at a time, following these guides:
   - a. Keep clearly in mind the question you want answered.
   - b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date?
   - c. Move your eyes quickly over the page, looking for your clues.
   - d. When you find what you think is the answer, read more carefully.
   - e. Stop reading when you have found the correct answer.
   - f. Record the answer in the space provided.
2. Time yourself. Note your time on your record sheet.

QUESTIONS:

1. Why are electrical connections soldered?
2. What is a cold soldered joint?
3. What kind of fix is used in soldering electronic components?
4. What kinds of solder is used in electronic components?
5. What precautions must be taken in soldering electronic components to a printed circuit board?
6. What is the purpose of tinning an iron?
7. What is the purpose of tinning a wire?
8. What is a soldering aid?
9. What is a mechanical connection?
10. What happens if excessive heat is applied to a printed circuit board?

Job Sheet #4

OBJECTIVE: To develop the skill of scanning for specific facts
Scanning is a planned hunt-skip-read process for finding specific facts—names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it.

When you scan for a specific fact, you do very little reading. Instead, you allow your eyes to move rapidly over the page (material) until you find what you are looking for.

MATERIALS: Delpit and Johnson, Electronics in Action, Circuit 27

PROCEDURE:

1. Read the questions below and scan for the answers, one at a time, following these guides:
    a. Keep clearly in mind the question you want answered.
    b. Decide in what form the answer should appear. For example should the answer be a word, a name, a number, or a date?
    c. Move your eyes quickly over the page, looking for your clues.
    d. When you find what you think is the answer, read more carefully.
    e. Stop reading when you have found the correct answer.
    f. Record the answer in the space provided.
2. Time yourself. Note your time on your record sheet.

QUESTIONS:

1. Why is the term solid state used in connection with transistor?
2. What does semi-conductor mean?
3. Name two basic materials which are used in the construction of transistors?
4. What is the letter symbol for a transistor?
5. The base of a transistor is comparable to what element in a vacuum tube?
6. What is the name that is being used in the electronics industry to replace the word "cycle"?
7. What are two types of transistors?
8. What do the letters E - B - C stand for?

Job Sheet #1

OBJECTIVE: To develop the skill of scanning for numerical facts

MATERIALS: RCA Receiving Tube Manual, pp. 530-31

PROCEDURE:

1. On the specified pages in the assigned material is a table of letters. Using the following procedure, scan the table for answers to the questions listed below:
   - a. Keep clearly in mind the questions you want answered.
   - b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date?
   - c. Move your eyes quickly over the page, looking for your clues.
   - d. When you find what you think is the answer, read more carefully.
   - e. Stop reading when you have found the correct answer. Write the answer on this job sheet.
2. Time yourself. Note your time on your record sheet.

QUESTIONS:

1. What is the basing diagram number for a 7B8 tube?
2. Is there any other tube on the page that has the same basing diagram?
3. To what tube must you refer to find all the characteristics of the 7B8 tube?
4. Are the heater ampers of the 7B8 typical of all the tubes on this page?
5. Is the outline of the 7B8 tube typical of the other tubes on the page.
6. The 7H7 has plate volts of 100. List other tubes on the page that also have 100 plate volts.

READING SKILLS - Elec.
SCANNING II

Job Sheet #2

OBJECTIVE: To develop the skill of scanning for numerical facts

MATERIALS: Attached Table of Transforms

PROCEDURE:

1. Using the following procedure scan the Table of Transformers for answers to the questions which are below:
    - a. Keep clearly in mind the question you want answered.
    - b. Decide in what form the answer should appear, for example, should the answer be a word, a name, a number, or a date?
    - c. Move your eyes quickly over the page, looking for your clues.
    - d. When you find what you think is the answer, read more carefully.
    - e. Stop reading when you have found the right answer.
2. Time yourself. Note your time on your record sheet.

QUESTIONS:

1. What are the three types of transformers?
2. Which are usually the larger ohms, primary or secondary?
3. Is a TMO-6 an imput or output transformer?
4. Is a TMO-8 transformer 369 for a hundred or more?
5. Can you get an 8 ohm secondary transformer in miniture and sub-miniture?
6. Does an imput transformer have less than 1K secondary in miniture transformers?
7. What does the * stand for?
8. Does a TMO-1 transformer cost less than a TOS-1 for 10-99?
9. Can you get an imput with a CT either in miniture of sub-miniture?
10. Does a driver come in a LOOK primary?

MINIATURE TRANSFORMERS SUB-MINIATURES

Miniature and sub-miniature transformers are selected for maximum reliability. Windings are sealed and all cores are of a high quality heat-treated core material. Pins on the printed circuit types (#) are speced for mounting ease.

NOTE: * is for printed circuit mounting.

DIMENSIONS

MINIATURE: 5/8 X 5/8 X 1/2 inches
SUB-MINIATURE: 1/2 X 1/2 X 1/2 inches

MINIATURE

STOCK NO.	TYPE	PRIMARY OHMS	SECONDARY OHMS	COST EACH 1-9	10-99	100-up
TMO-1	Output	500 CT	8	.49	.44	.36
*TMO-1P	Output	500 CT	4 & 8	.49	.44	.36
TMI-2	Driver	10K	2K CT	.59	.49	.39
*TMI-2P	Driver	10K	2K CT	.59	.49	.39
	Output	1.2K CT	4 & 8	.59	.49	.39
*TMO-3P	Output	1.2K CT	4 & 8	.59	.49	.39
*TMO-4P	Output	200	8	.49	.44	.35
TMO-5	Imput	100K	1K CT	.89	.79	.69
*TMO-5P	Imput	100K	1K CT	.79	.69	.63
TMO-6	Imput	20K	1K CT	.69	.59	.49
*TMO-6P	Imput	20K	1K CT	.69	.59	.49
TMO-7	Imput	500K	1K CT	.89	.79	.74
*TMO-7P	Imput	500K	1K CT	.99	.89	.84
TMO-8	Output	800	4 & 8	.49	.44	.36
*TMO-8P	Output	800	4 & 8	.59	.49	.39

SUB-MINIATURE

STOCK NO.	TYPE	PRIMARY OHMS	SECONDARY OHMS	1-9	10-99	100-up
TOS-1	Output	500 CT	8	.49	.39	.35
*TOS-1P	Output	500 CT	8	.49	.39	.35
TOS-2	Driver	10K	2K CT	.49	.39	.35
*TOS-2P	Driver	10K	2K CT	.47	.37	.33
TOS-5	Imput	100K	1K CT	.79	.69	.59
*TOS-5P	Imput	100K	1K CT	.79	.69	.59

Job Sheet #3

OBJECTIVE: To develop the skill of scanning for numberical facts

MATERIALS: Attached Table of Electolytic Capacitors

PROCEDURE:
1. Using the following procedure scan the Table of Electrolytic Capacitors for answers to the questions which are below.
    a. Keep clearly in mind the questions you want answered.
    b. Decide in what form the answer should appear.
    c. Move your eyes quickly over the page, looking for your clues.
    d. When you find what you think is the answer, read more carefully.
    e. Stop reading when you have found the correct answer.
2. Time yourself. Note your time on your record sheet.

QUESTIONS:
1. What are the voltage sizes?
2. Can you get 5MF-10 volts?
3. Can you get a number of sizes at 25 volts.
4. Which costs more, the higher the MF or the higher the voltage?
5. Is there a correlation between the 6 volts group and the 15 volt group?
6. What is the correlation between the 6 volt group and the 15 volt group?
7. Does the stock no. tell you anything about the M.F.? If so, what?
8. Does the stock no. tell you anything about the volts? If so, what?

ELECTROLYTIC CAPACITORS

Miniature Single-Ended Electrolytic Capacitors

Aluminum foil electrolytic capacitors sealed into an aluminum case with single-ended termination. Their small size and upright terminal structure make them ideal for transistor and printed curcuit work. Their high quality construction gives maximum reliability and minimum leakage.

MF	VOLTS	STOCK NO.	COST EACH 1-99	 100
2	6	U6-2	.07	.06
5	6	U6-5	.08	.07
10	6	U6-10	.09	.08
30	6	U6-30	.09	.08
50	6	U6-50	.12	.10
100	6	U6-100	.14	.11
10	10	UIO-5	.10	.08
10	10	UIO-10	.11	.09
30	10	UIO-30	.11	.09
100	10	UIO-100	.14	.13
500	10	UIO-500	.26	.22
1000	10	U-IO-1000	.33	.29
2	15	U15-2	.08	.07
5	15	U15-2	.10	.09
10	15	U15-10	.12	.10
30	15	U15-30	.13	.12
50	15	U15-50	.15	.13
100	15	U15-100	.16	.14
10	25	U25-10	.15	.14

READING SKILLS - Elec.
Scanning II

Job Sheet #4

OBJECTIVE: To develop the skill of scanning for numerical facts

MATERIALS: Attached Table of Black & White Picture Tube Characteristics

PROCEDURE:

1. Using the following procedure, scan the Table of Black & White Picture Tube Characteristics.
    a. Keep clearly in mind the question you want answered.
    b. Decide in what form the answer should appear.
    c. Move your eyes quickly over the page, looking for your clues.
    d. When you find the correct answer read more carefully.
    e. Stop reading when you have found the correct answer.
2. Time yourself. Note your time on your record sheet.

QUESTIONS:

1. Find a 16 WP4. What is the filament voltage?
2. What is the G2 voltage?
3. What is the anode voltage?
4. What is the deflection angle?
5. Does it require an ion trap?
6. What is the weight of this tube?
7. What is the screen area in inches?
8. Does to volt/MA rating change with the deflection angle?
9. At what deflection angle does the busing change from an 8HR to a 12D or 12N?

READING SKILLS - Elec.
SCANNING III

Job Sheet # 1

OBJECTIVE: To develop the skill of scanning for a name and number.

MATERIALS: G.C. Electronics Catalog for 71-72, p. 205.

PROCEDURE:
1. You are to scan a list of antenna lead-ins.
2. Read the questions.
3. Scan for the answers, one question at a time.
4. Record your findings below.
5. Time yourself. Note your time on your record sheet.

QUESTIONS:
1. Give the part no. of low-loss 300 ohm twin lead, 100 ft.
2. Give the list price ____________________ .
3. Give the net price _____________________.
4. What lengths does it come in?
5. What colors does it come in?
6. What is the weight of 100 ft?
7. Does low loss lead come the same as the flat lead per 100 ft?

Job Sheet # 2

OBJECTIVE: To develop the skill of scanning for a name and number.

MATERIALS: G.C. Electronics catalog for 71-72, p. 117.

PROCEDURE:
1. You are to scan a list of indoor TV antenna.
2. Read the questions.
3. Scan for the answers, one question at a time.
4. Make use of the illustrations wherever necessary.
5. Record your findings below.
6. Time yourself. Note your time on your record sheet.

QUESTIONS:
1. What is the cat. no. for a RCA C147 1853-1 antenna?

2. What is the JFD no. for a Zenith 1-101 antenna?

3. What is the net price for an antenna cat. no. 61-814?

4. How many antennas come packaged for cat. no. 61-818?

5. Do all Zenith antennas on this page cost the same?

6. Is the Antenna cat. no. 61-818 a dual antenna?

7. Does the antenna JFD no. TA 482 come with a wire lead?

Job Sheet # 3

OBJECTIVE: To develop the skill of scanning for a name and number.

MATERIALS: G.C. Electronics catalog for 71-72, p. 112.

PROCEDURE:
1. You are to scan a list of knobs.
2. Read the questions.
3. Scan for the answers, one question at a time.
4. Record your findings below.
5. Time yourself. Note your time on your record sheet.

QUESTIONS:
1. What is the cost of a pointer knob, cat. no. 25-038?

2. Does this knob come in black only?

3. How many of the above knobs come in a standard package?

4. Is the knob cat. no. 25-120 white?

5. What knob would you use if it needed to be a pointer, walnut and 1 1/4 inches in diameter?

6. What is the cat. no. and price for a knob with a metallic insert?

Job Sheet # 1

OBJECTIVE: To develop the skill of skimming for main ideas.

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writer. You still don't read every word, but you now go deeper into the material than before.

MATERIALS: "A New Era of Portable Power," Electronics Digest

PROCEDURE:
1. Skim the attached article for the main idea.
2. Read the title.
3. Read the headings and subheadings.
4. Read the first sentence of every paragraph.
5. Read the last sentence of every paragraph.
6. Answer the questions.

QUESTIONS:
1. What is the name of the new battery?
2. Can this battery be recharged?
3. If so, how long can it be recharged?
4. List five tools that are being powered by this battery.
5. What organizations have used this battery for starting their motors and for standby power?
6. How long did it take to develop this battery?

115

Job Sheet # 2

OBJECTIVE: To develop the skill of skimming for main ideas

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writer. you still don't read every word, but you now go deeper into the material than before.

MATERIALS: "New Coaxial Telephone Cable"

PROCEDURE:

1. Skim the attached article for the main idea.
2. Read the title.
3. Read the headings and subheadings.
4. Read the first sentence of every paragraph.
5. Read the last sentence of every paragraph.
6. Answer the questions.

QUESTIONS:

1. What is the name of this new telephone cable?
2. What are four advantages of this cable?
   a.
   b.
   c.
   d.
3. Who manufactures the new cable?
4. What is the saving in production costs of this cable over other cables?

Job Sheet # 3

OBJECTIVE: To develop the skill of skimming for main ideas

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writer. You still don't read every word, but you now go deeper into the material than before.

MATERIALS: "The Electronics Service Technician"

PROCEDURE:
1. Skim the attached article for the main idea.
2. Read the title.
3. Read the headings and subheadings
4. Read the first sentence of every paragraph.
5. Read the last sentence of every paragraph.
6. Answer the questions.

QUESTIONS:
1. What is the outlook in the next few years for the consumer electronics business?
2. What has been the yearly increase in factory sales over the past ten years?
3. What are the needs for service technicians?
4. What is the usual starting salary per week for a technician?
5. With several years experience, what salary might a good technician recieve?
6. List four things you can do in planning your future in
   a.
   b.
   c.
   d.

READING SKILLS - Elec.
SKIMMING FOR MAIN IDEAS

Job Sheet #4

OBJECTIVE: To develop the skill of skimming for main ideas

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writer. You still don't read every word, but you now go deeper into the material than before.

MATERIALS: Cavallari, F.D., "The Transistor" - Study Guide No. 5,
BASIC ELECTRONICS

PROCEDURE:
1. Obtain the specified article from the file.
2. Read the title.
3. Read the headings and subheadings.
4. Read the first sentence of every paragraph.
5. Read the last sentence of every paragraph.
6. Answer the questions.

QUESTIONS:
1. How long has it been since people began to understand the transistor?
2. What are transistors primarily used for?
3. What other uses do they have?
4. What company was first to use the transistor?
5. What are two types of junction transistors?
   a.
   b.
6. Draw a common emitter amplifier.

Job Sheet # 5

OBJECTIVE: To check how well you have learned the procedure of skimming.

MATERIALS: Miller, James Nathan, "It's a Dead-End Road for the Dropout"

PROCEDURE:
1. Obtain the specified article from the file.
2. Follow the skimming procedure you have been practicing in the four preceding job sheets.
3. Answer the questions below.

QUESTIONS:
1. What happens to the person who tries to "fake" having a high school diploma?
2. List three reasons why the article states that students often drop out of school:
   a. ______________________________
   b. ______________________________
   c. ______________________________
3. Compare working conditions and school conditions as often experienced by the dropout.
   How do they differ? ______________________________
   In what ways are they alike? ______________________________
4. Some jobs are "learning by doing" situations where the employer trains you. Are these increasing or decreasing? Are there more or less people in competition for these jobs
   ____
5. The article states that the high school diploma has come to mean three things. Name them.
   a. ______________________________
   b. ______________________________
   c. ______________________________
6. A high school drooout can always enlist in the Army if he can't find a job. Yes _____ No _____
   Explain your answer.
7. An employer from Portland is quoted on his feelings regarding the hiring of dropouts. Summarize what he says.

READING SKILLS - Elec.
ORGANIZING WHAT YOU HAVE READ
I. Explanation of a tech.
process

Job Sheet #1

OBJECTIVE: To gain experience in reading the written and diagramatic explanation of a technical process. To be able to organize in a list the sequence of events in the process.

MATERIALS: Duarte and Duarte, Electronics Assembly Methods, chap. 8, "Soldering Principles."

PROCEDURE: This is a technical selection and you should read it differently than you read literature or social studies. This selection explains processes which . . .

These instructions tell you how to read material that describes a process:

1. Study the diagram. Read the names of the parts. Then try to name them without reading the labels.
2. Read all of the boldfaced headings in the selection to find out what processes will be described.
3. Read the introductory paragraph. Read the first section; read just one sentence at a time. If it mentions something shown in the diagram, look back at the diagram after reading the sentence, read the next one in the same way. Stop and think about each sentence after you have read it to make sure that the meaning is clear to you.
4. After reading the entire section in this way, try to explain to yourself without looking at the book just how the process takes place.
5. Work with each of the remaining sections in the same way that you worked with the firt one.
6. Do the following without referring back to the book (if possible).
    a. List in order the steps that take place in the process which has been described.
    b. Draw a diagram illustrating the process you have just outlined.

Job Sheet #2

OBJECTIVE: To gain experience in reading the written and diagramatic explantion of a technical process. To be able to organize in a list the sequence of events in the process.

MATERIALS: Duarte and Duarte, Electronics Assembly Methods, chap. 7, "Wire and Wire Preparation."

PROCEDURE: This is a technical selection and you should read it differently than you read literature or social studies. This selection explains processes which . . .

These instructions tell you how to read material that describes a process.

1. Study the diagram. Read the names of the parts. Then try to name them without rereading the labels.
2. Read all of the boldfaced headings in the selection to find out what processes will be described.
3. Read the introductory paragraphs. Read the first selection; read just one sentence at a time. If it mentions something shown in the diagram, look back at the diagram after reading the sentence, read the next one in the same way. Stop and think about each sentence after you have read it to make sure that the meaning is clear to you.
4. After reading the entire section in this way, try to explain to yourself without looking at the book just how the process takes place.
5. Work with each of the remaining sections in the same way that you worked with the first one. Without referring back to the book (if possible) do the following:

    a. List in order the steps that take place in the process which has been described.

    b. Draw a diagram illustrating the process you have just outlined.

READING SKILLS - Elec.
ORGANIZING WHAT YOU HAVE READ
III. Classification

Job Sheet #1

OBJECTIVE: To be able to identify a classification pattern, its subdivisions, and the differentiating characteristics of each.

MATERIALS: Gerrish, Electricity and Electronics, pp. 107-109

PROCEDURE:
1. The selection below is a classification article about capacitors.
2. The bold-faced headings tell you what the general classifications are.
3. The underlined headings name the small classifications under a general heading.
4. Scan the article to find the general classifications. Clue phrases to look for are: (Examples - three dif. kinds)
5. List on the chart below the general classifications
6. Now read the article carefully to find the subdivisions and their characteristics.
7. Fill in on the chart the subdivisions.
8. List the characteristics which differentiate one group from the other.

TYPES OF CAPACITORS	SIZE AND SHAPE	SYMBOL	DOES IT HAVE A &	NUMBER OF LEADS	TYPE OF MATERIAL

READING SKILLS - Elec.
ORGANIZING WHAT YOU HAVE READ
III. Classification

Job Sheet #2

OBJECTIVE: To be able to identify a classification pattern, its subdivision, the differentiating characteristics of each.

MATERIALS: Gerrish, Electricity & Electronics, pp. 41-43

PROCEDURE:
1. The selection below is a classification article about resistors.
2. The bold-face headings tell you what the general classifications are.
3. The underlined headings name the smaller classifications under a general heading.
4. Scan the article to find the general classifications. Clue phrases to look for are: (Examples—three different kinds)
5. List on the chart below the general classifications.
6. Now read the article carefully to find the subdivisions and their characteristics.
7. Fill in on the chart the subdivisions.
8. List the characteristics which differentiate one group from the other.

TYPE OF RESISTORS	SIZE AND SHAPE	WATTAGE	SYMBOL	APPLICATION	MATERIAL

READING SKILLS - Elec.
ORGANIZING WHAT YOU HAVE READ
III. Classification

Job Sheet #3

OBJECTIVE: To be able to identify a classification pattern, its subdivision, and the differentiating characteristics of each.

MATERIALS: Duarte and Duarte, Electronics Assembly Methods, page 5

PROCEDURE:

1. The selection below is a classification article about Units of Quantity.
2. The bold-face headings tell you what the general classifications are.
3. Scan the article to find the general classification. Clue phrases to look to look for are: (Examples — three different kinds)
4. List on the chart below the general classification.
5. Now read the article carefully to find the subdivisions and their characteristics.
6. Subdivisions are listed. Fill in the Units and their abbreviations.

RESISTANCE UNITS	ABBREV.	VOLTAGE UNIT	ABBREV.	CURRENT UNITS	ABBREV.

READING SKILLS - Elec.
ORGANIZING WHAT YOU HAVE READ
III. Classification

Job Sheet # 4

OBJECTIVE: To be able to identify a classification pattern, its subdivisions and the differentiating characteristics of each.

MATERIALS: Duarte and Duarte, Electronics Assembly Methods, page 90-93

PROCEDURE:

1. The selection below is a classification article about inductors.
2. The bold-face headings tell you what the general classifications are.
3. Scan the article to find the general classifications. Clue phrases to look for are: Examples — three different kinds
4. On the chart below the general classification are listed.
5. Now read the article carefully to find the subdivision and their characteristics.
6. Fill in the chart from figures 12-7 page 93.

TYPE OF INDUCTORS	SHAPE AND SIZE	SYMBOL	LEADS IDENTIFIED	COVERING

Job Sheet #1

OBJECTIVE: To gain in identifying causes that produce an effect

MATERIALS: Article: "Super Long Electromagnetic Waves"

PROCEDURE:

1. Go to the file to obtain the specified article.
2. Read the entire article.
3. In this article, the effect of something is given first. Then follows an explanation of the cause. Sum up in your own words the effect as stated in the article. Write on the line below.
4. Sum up three of the causes which produced this effect. Write the causes on the approximate lines below.

EFFECT: ______________________________

____

CAUSES: 1. ______________________________

2. ______________________________

3. ______________________________

5. Return the article to the file.

Job Sheet #2

OBJECTIVE: To gain experience in identifying causes that produce an effect.

MATERIALS: Article: "Steps to Safety"

PROCEDURE:
1. Go to the file to obtain the specified article.
2. Read the entire article.
3. In this article the effect is given first. Then follows an explanation of the causes which produce this effect. In your own words state the effect on the line below.
4. Find six causes which produce this effect. Write the causes on the approximate lines below.

EFFECT: ____________________

____

CAUSES: 1. ____________________

2. ____________________

3. ____________________

4. ____________________

5. ____________________

6. ____________________

5. Return the article to the file.

READING SKILLS - Elec.
ORGANIZING WHAT YOU HAVE READ
III. "Effect and Causes"

Job Sheet #3

OBJECTIVE: To gain experience in identifying causes that produce an effect.

MATERIALS: Article: "Tape Recording Systems"

PROCEDURE:

1. Go to the file to obtain the specified article.
2. Read the entire article.
3. In this article the effect is given first. Then follows an explanation of the causes which produce this effect. In your own words state the effect on the lines below.
4. Find as many causes as you can which produce this effect. List the causes on the lines below.

EFFECT: ______________________________

____

CAUSES: ______________________________

____

____

____

5. Return the article to the file.

Job Sheet #4

OBJECTIVE: To gain experience in identifying causes that produce an effect.

MATERIALS: Article: "Yesterday"

PROCEDURE:

1. Go to the file to obtain the specified article.
2. Read the entire article.
3. In this article, the effect is given first. Then follows an explanation of the causes which produce this effect. In your own words state the effect on the line below.
4. Find as many causes as you can which produce this effect. List the causes on the line below.

EFFECT: ______________________________

CAUSES: ______________________________

____

____

____

____

5. Return the article to the file.

READING SKILLS II - Elec.
ORGANIZING WHAT YOU HAVE READ
IV. Cause and Effect

Job Sheet #1

OBJECTIVE: To gain experience in identifying effects produced by causes. To determine how and why the causes had the effects they did.

MATERIALS: Duarte and Duarte, *Electronics Assembly Methods*, Chap. 9

PROCEDURE: In the assigned material the causes are given which lead up to some effect.

1. Find the causes in the chapter and sum them up in a few words on the line following cause.
2. Then find the effect and sum it up in a few words on the line following effect.

CAUSE: ______________________________

CAUSE: ______________________________

EFFECT: ______________________________

Job Sheet #2

OBJECTIVE: To gain experience in identifying effects produced by causes. To determine how and why the causes had the effects they did.

MATERIALS: "Cover Story" attached

PROCEDURE: In the attached article the causes are given which lead up to some effect.

1. Find the causes in the article and sum it up in a few words on the line following cause.
2. Then find the effect and sum it up in a few words on the line following effect.

CAUSE: ______________________________

CAUSE: ______________________________

EFFECT: ______________________________

COVER STORY

When completed, the Browns Ferry Nuclear Plant (shown on cover) will be the worlds largest steam electric plant. It will have a capacity of 3,456,000 kilowatts of electricity in three units of 1,152,000 kw each. The units had been scheduled in for operation consecutively in 1970, 1971, and 1972, but operation of the first two units will be later than originally planned because of a delay in equipment deliveries. The side of the plant is in Limestone County, Alabama, on the north side of Wheeler Reservoir.

Although the nuclear plants will qualify as "heavy industry" in terms of size, their impact on the environment will be a vast improvement over former systems. Nuclear plants have no fuel storage pile, no smoke, and leave no residue in the vicinity. They will be quiet, clean, and will follow modern architectural trends in design of the various buildings in the complex.

Today, government and industry are working together to develop new technology to cope with air pollution problems. These technological advances can not only improve control of present air pollution sources, but can in many instances replace them with new pollution-free substitutes such as electric heating and the nuclear power plants. Perhaps even greater potential lies in the development of a practical electric car, which could reduce the single largest source of air pollutants——fuel powered vehicles.

Job Sheet #1

OBJECTIVE: To gain practice in finding central topics, major and minor details in paragraphs.

MATERIALS:

1. *Basic Electricity and Electronics*, by ZBar
   Selection is experiment on: vacuum tube power amplifiers
2. Informational packet on blaock diagrams and paragraphs

PROCEDURE:

1. Carefully read the informational packet on outlining a paragraph.
2. Read the selection.
3. Make a block diagram of this (or these) paragraphs.
   Make one diagram for each paragraph.

Job Sheet #2

OBJECTIVE: To gain practice in finding central topics, major and minor details in paragraphs.

MATERIALS:
1. Basic Electricity and Electronics by Zbar
   Selection is the experiment on the lound speaker.
2. Informational packet on Block Diagrams and Paragraphs

PROCEDURE:
1. Carefully read the information packet on outlining a paragraph.
2. Read the selection.
3. Make a block diagram of this (or these) paragraphs.
   Make one diagram for each paragraph.

Job Sheet #3

OBJECTIVE: To gain practice in finding central topics, major and minor details in paragraphs.

MATERIALS:

1. Basic Electricity and Electronics, by ZBar
   Selection in the experiment on silicon controlled rectifier (SCR)
2. Informational packet on Block Diagrams and Paragraphs

PROCEDURE:

1. Carefully read the informational packet on outlining a paragraph.
2. Read the selection.
3. Make a block diagram of this (or these) paragraphs.
   Make one diagram for each paragraph.

Job Sheet #1

OBJECTIVE: To gain experience in reading a detailed statement of fact pattern.

MATERIALS: YESTERDAY "HISTORICAL EVENTS IN ELECTRONICS" attached.

INFORMATION: This selection gives straight information about a topic. The facts are dense and they may contain a definition or a statement of a principle. The best way to read this material is to look for the main idea and then the cluster of supporting ideas, for eahc main idea.

PROCEDURE:
1. Preview for headings, words in italics, and illustrations.
2. Read the entire selection rapidly for general information. Read as fast as you can. Time yourself and record time here __________.
3. Answer the general fact questions below.
4. Read the informational packet on Block Diagrams.
5. Make an outline for each paragraph in block diagram form.
6. Write out any definitions of principles you find stated.

A. General Fact Questions:

1. How long ago did automatic telephones begin?
2. What type of telephone companies were the first ones?
3. Who developed a telephone system without an operator?

B. Block Outline Form

C. Definition or principle:

Job Sheet #2

OBJECTIVE: To gain experience in reading a detailed statement of fact pattern.

MATERIALS: Informational packet on Block Diagrams
Article: "Magazines and Books on Magnetic Tape"

INFORMATION: This selection gives straight information about a topic. The facts are dense and they may contain a definition or a statement of a principle. The best way to read this material is to look for the main idea and then the cluster of supporting ideas, for each main idea.

PROCEDURE:

1. Preview for headings, words in italics, and illustrations.
2. Read the entire selection rapidly for general information. Read as fast as you can. Time yourself and record time here ______________
3. Answer the general fact questions below.
4. Read the informational packet on Block Diagrams.
5. Make an outline for each paragraph in block diagram form.
6. Write out any definitions or principles you find stated.

A. General fact questions:

   1. Who developed talking books?
   2. Who were they developed for?
   3. What type of books are available under this plan?

B. Block outline form

C. Definition or principle:

/137

Job Sheet #1

OBJECTIVE: To outline a paragraph to show the relationship between the main idea, and the relationship between major and minor details.

MATERIALS: PORTABLE COLOR CAMERA HAS MANY APPLICATIONS, article below

PROCEDURE:
1. Read the informational packet on outlining paragraphs carefully.
2. Read the article once as quickly as you can, to get the main ideas.
3. Read the article over again more slowly and make an outline of the paragraph(s) below. Be sure to use Roman numerals I, II, III for the main ideas; capital letters for the major details; Arabec numberals for minor details.

SELECTION:

PORTABLE COLOR CAMERA HAS MANY APPLICATIONS

A broadcast-quality color television camera, small enough to be carried by an astronaut on a manned lunar exploration mission, may also find use in a number of industrial and broadcast television applications.

The camera, its portable power supply, and receiving and transmitting radio equipment weight a total of 56 pounds, as contrasted to an average of 200 pounds for comparable color TV cameras, not including power supply. It was developed at RCA's Astro-Electronics Division in Princeton, N.J.

The camera was designed to be carried and operated by one man, making it suitable for use in manned lunar exploration. It could be carried on the moon by an exploring astronaut to provide scientists with color views of the lunar environment. The pictures could be viewed instantly on earth TV receivers and could also be stored on conventional video tape to provide a record of the scenery for later detailed analysis.

Job Sheet #2

OBJECTIVE: To outline a paragraph to show the relationship between the main idea, and the relationship between major and minor details.

MATERIALS: Article below, NEW DOUBLE LIFE LEAD-ACID BATTERY

PROCEDURE:
1. Read the informational packet on outlining paragraphs carefully.
2. Read the article once as quickly as you can to get the main ideas.
3. Re-read the article more slowly and make an outline of the paragraphs. Be sure to use Roman numerals I, II, III for the main ideas; capital letters for the major details; Arabec numerals for minor details.

SELECTION:

NEW DOUBLE LIFE LEAD-ACID BATTERY

A new cylindrical lead-acid battery, whose performance actually improves during the greater part of its lifetime and whose life span is twice that of other batteries, has been developed by Bell Telephone Laboratories.

The new battery has an anticipated life greater than 30 years—doubling the typical 15-year life span of present batteries. The improvement is achieved without increasing the weight or volume of the cell.

Bell system telephone companies will use the new battery primarily as a source of emergency power should commercial power sources fail. The Bell System purchases about $15 million worth of batteries each year, and expects that the new batteries will be made by outside suppliers—as are all Bell System batteries, This development will provide the Bell System with a common battery design, reducing about 66 different battery configurations to possibly as few as four.

The battery, is covered by U.S. Patent No. 3,434,833, issued to L.D. Babusci. B.A. Cretalla, D.O. Feder. and D.E. Koontz, as well as a number of pending patent applications. The battery was discussed at a recent Symposium for battery manufacturers in Murray Hill, N.J.

One of the unique features of the new battery is the use of circular grids made of pure lead—a material that corrodes more slowly than commonly used lead alloys of calcium or antimony.

The cylindrical design provides a more rigid structure than the familiar rectangular shape and thus permits the use of the softer pure lead.

READING SKILLS - Met. Sh.
OVERVIEWING I

Job Sheet # 1

OBJECTIVE: To develop the skill of overviewing a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1). To examine new material to find out what it contains, and (2). To determine whether a specific book contains information you want.

MATERIALS: Peterson, *American Labor Unions*.

PROCEDURE:

1. Imagine you are looking at this book for the first time and want to find out what it contains.

2. Read the title.

3. Quickly scan:

   a. The Table of Contents
   b. The Preface or Forward
   c. The Introduction
   d. The pictures, maps, graphs, or tables
   e. The Appendix
   f. The Index

4. Record your findings below:

   a. The title of this book is ______________________________

   b. Read the introduction or forward and in your own words state the purpose of the book:

   c. The table of contents shows that this book contains ________ (no.) of sections, broken down into ________ (no.) of chapters.

   d. Your overview shows that this book also contains the following:

	Check if applicable
(1). Index	____________
(2). Appendix	____________
(3). Introduction	____________
(4). Other (List)	____________

5. From your overview state the purposes for which you believe this book would be useful:

   (1).
   (2).
   (3).

READING SKILLS - Met. Sh.
OVERVIEWING I

Job Sheet # 2

OBJECTIVE: To develop the skill of overviewing a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1). To examine new material to find out what it contains, and (2). To determine whether a specific book contains information you want.

MATERIALS: Kursh, Apprenticeships in America.

PROCEDURE:

1. Imagine you are looking at this book for the first time and want to find out what it contains.

2. Read the title.

3. Quickly scan:

   (a). the table of contents
   (b). the preface or forward
   (c). the introduction
   (d). the pictures, maps, graphs, or tables
   (e). the appendix
   (f). the index

4. Record your findings below:

   (a). the title of this book is ______________________________

   (b). Read the introduction and in your own words state the purpose of the book.

   (c). The table of Contents shows that this book contains ________ (no.) of sections, broken down into _______ (no.) of chapters.

   (d). Your overview shows that this book also contains the following:

   Check if applicable

   (1). Index ______________
   (2). Appendix ______________
   (3). Introduction ______________
   (4). Other (List) ______________

5. From your overview, state the purposes for which you believe this book would be useful:

   (1).
   (2).
   (3).

Job Sheet # 3

OBJECTIVE: To develop the skill of overviewing a textbook or technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1). To examine new material to find out what it contains, and (2). To determine whether a specific book contains information you want.

MATERIALS: Lindbeck and Lathrop, General Industry

PROCEDURE:

1. Imagine you are looking at this book for the first time and want to find out what it contains.

2. Read the title.

3. Quickly scan:

   (a). the table of contents
   (b). the preface or forward
   (c). the introduction
   (d). the pictures, maps, graphs, or tables
   (e). the appendix
   (f). the index

4. Record your findings below:

   (a). The title of this book is ________________________________

   (b). Read the introduction and in your own words state the purpose of this book.

   (c). The Table of Contents shows that this book contains ______ (no.) of sections, broken down into _______ (no.) of chapters.

   (d). Your overview shows that this book also contains the following:

   Check if applicable

   (1). index ________________
   (2). appendix ________________
   (3). introduction ________________
   (4). other (list) ________________

5. From your overview, state the purposes for which you believe this book would be useful:

   (1).
   (2).
   (3).

BEST COPY AVAILABLE

Job Sheet # 4

OBJECTIVE: To develop the skill of overviewing a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific book contains information you want.

MATERIALS: Machine Tool Operation, Part I.

PROCEDURE: 1. Imagine you are looking at this book for the first time and want to find out what it contains.

2. Read the title.

3. Quickly scan:

(a) the table of contents
(b) the preface or forward
(c) the introduction
(d) the pictures, maps, graphs, or tables
(e) the index

4. Record your findings below:

(a). The title of this book is ______________________________

(b). Read the introduction and in your own words state the purpose of this book.

(c). The Table of Contents shows that this book contains __________ (no.) of sections, broken down into ______ (no.) of chapters.

(d). Your overview shows that this book also contains the following:

	Check if applicable
(1). index	__________
(2). appendix	__________
(3). introduction	__________
(4). other (list)	

(5). From your overview, state the purpose for which you believe this book would be useful:

(1).
(2).
(3).

READING SKILLS - Met. Sh.

OVERVIEWING II

Job Sheet # 1

OBJECTIVE: To develop the skill of overviewing a chapter in a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing. (1) To examine new material to find out what it contains, and (2) To dtermine whether a specific chapter contains information which you need.

MATERIALS: McCabe and Bauer, Metals, Atoms and Alloys, chap. #1. "Cutting the Edge of Civilization."

PROCEDURE: Over view the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read captions
5. Record your findings below:

a. The title of this chapter is ______________________________

b. This chapter is divided into __________ (no.) of sections.

c. Most chapters indicate in the opening paragraphs what the chapter will be about. Read the first paragraphs of this chapter and in your own words state its purpose:

d. List all the bold-face headings which develop the chapter:

e. State the technical purpose for which the information in this chapter would be useful.

READING SKILLS - Metal Shop

OVERVIEWING II

Job Sheet #2

OBJECTIVE: To develop the skill of overviewing a chapter in a textbook or a technical book.

Overviewing is a quick and efficient way to get a general idea about what is in a book, a chapter, or an article. By overviewing you find out what a writer is saying without reading every word he has written. There are two reasons for overviewing: (1) To examine new material to find out what it contains, and (2) To determine whether a specific chapter contains information which you need.

MATERIALS: Machine Tool Operation, Part I Chapter #1, "The Machinist Trade."

PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. Record your findings below:

a. The title of this chapter is ______________________________.

b. This chapter is divided into ______________ of sections.
no

c. Most chapters indicate in the opening paragraphs what the chapter will be about. Read the first paragraphs of this chapter and in your own words state its putpose:

d. List all the bold-face headings which develop the chapter:

e. State the technical purposes for which the information in this chapter would be useful.

Job Sheet #3

OBJECTIVE: To overview a chapter in a textbook without writing all the information down.

MATERIALS: Iman and Koch, Labor in American Society, Chapter #2, "Craftsman and the Courts."

PROCEDURE: Overview the chapter as follows:

1. Read the title.
2. Read the bold-face headings.
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. If you have correctly followed the process of overviewing a chapter, you should now be able to state the purpose of this chapter without having to write out all the information you listed in Job Sheets #1 and #2. Complete the following statement:

The purpose of this chapter is

Job Sheet #4

OBJECTIVE: To overview a chapter in a textbook without writing all the information down.

MATERIALS: Kursh, Apprenticeships in America, Chapter #2, "Wanted, More Skilled Workers."

PROCEDURE: Overview the chapter as follows:

1. Read the title
2. Read the bold-face headings
3. Read the opening paragraph(s).
4. Look for illustrations, tables, symbol charts, diagrams, etc. Read the captions.
5. If you have correctly followed the process of overviewing a chapter, you should now be able to state the purpose of this chapter without having to write out all the information you listed in Job Sheets #1 and #2. Complete the following statement:

The purpose of this chapter is:

BEST COPY
AVAILABLE

READING SKILLS - Met. Sh.
PREVIEWING

Job Sheet #1

OBJECTIVE: To develop the skill of previewing an article.

Overviewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article, or a booklet to get a more specific idea of the contents. You now read the title, headings and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS: Peterson, America's Labor Unions, Part II, chapter 3.

PROCEDURE: Preview chapter 3, part 2 of the assigned material using the following procedure:

1. Read the title.
2. Read the headings and subheadings.
3. Read the first and last paragraphs.
4. Read words, phrases, and sentences in boldface, italics, or other special type.
5. Read any summary that you might find.
6. Look at the pictures, tables, maps, and graphs. Read the captions.
7. Answer the following questions:
   a. The title of the section is ____________________
   b. This section of the book deals with ______________
   ____
   c. The first main heading of the section tells ________
   ____
   d. What is the second main heading of the section?
   e. What information can you expect under this heading?
   f. What kinds of lists can you find in this section, and for what would they be useful?
   g. For what purposes would the information in this chapter be useful?

BEST COPY AVAILABLE

Job Sheet #2

OBJECTIVE: To develop the skill of previewing an article.

Overviewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article, or a booklet to get a more specific idea of the contents. You now read the title, headings, and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy materials, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS: Widick, B.J., Labor Today, Chapter 1, Part 1.

PROCEDURE: Preview Chapter 1, Part 1 of the assigned material using the following procedure:

1. Read the title.
2. Read the headings and subheadings.
3. Read the first and last paragraphs.
4. Read all quotations and sentences set apart in special type.
5. Read any summary that you might find.
6. Look at the pictures, tables, maps, and graphs. Read the captions.
7. Answer the following questions:
    a. The title of the chapter is ______________________
    b. The information contained in the chapter deals with ________
    ____
    c. In your own words list two opinions given regarding automation:
        (1)
        (2)
    d. State in your own words your interpretation of the statement in this chapter, "It is sometimes said that automation downgrades the laborer to the status of a servant to a machine."

READING SKILLS - Met. Sh.
PREVIEWING

Job Sheet #3

OBJECTIVE: To develop the skill of previewing an article.

Overviewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article, or a booklet to get a more specific idea of the contents. You now read the title, headings and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS: Copies of the publication Steel Facts.

PROCEDURE:

1. Go to the file and obtain copies of Steel Facts.
2. Find an article which interests you and preview it, using the following procedure;
    a. Read the title.
    b. Read the headings and subheadings.
    c. Read the first and last paragraphs.
    d. Read words, phrases, and sentences in boldface, italics, or other special types.
    e. Read any summary that you might find.
    f. Look at the pictures, tables, maps, and graphs. Read the captions.
3. Answer the following questions:
    a. The title of the article is ____________________ and it appears in the ______________________ issue of Steel Facts.
    b. This article deals with ______________________________________
    c. The first main heading of the article tells ________________
    ____
    d. The other main points which the article deals with are:
    (1). ____________________ (2) ____________________
    (3). ____________________ (4) ____________________
    e. For what purposes would the information in this article be useful?
    f. Summarize in two or three sentences the content of the article.

BEST COPY AVAILABLE

Job Sheet #1

OBJECTIVE: To develop the skill of previewing an article.

Overviewing, as you have seen, gives you a general idea of what is in a book, a chapter, or an article. In previewing you take a closer look at a chapter, an article, or a booklet to get a more specific idea of the contents. You now read the title, headings, and subheadings, words in special type, captions, and notes. Also, you read the first and last paragraphs and any summary you may find.

Previewing is most useful with short selections; it is least useful with lengthy material, like a textbook. Previewing helps you save valuable time and effort. It gives you a good idea of what is in an article without reading every word.

MATERIALS: Copies of the publication The Federationist.

PROCEDURE:

1. Go to the file and obtain copies of The Federationist.
2. Find an article which interests you and preview it, using the following procedure:
   a. Read the title.
   b. Read the headings and subheadings.
   c. Read the first and last paragraphs.
   d. Read words, phrases, and sentences in boldface, italics, or other special type.
   e. Read any summary that you might find.
   f. Look at the pictures, tables, maps, and graphs. Read the captions.
3. Answer the following questions:
   a. The title of the article is ________________ and it appears in the ________________ (date) issue of The Federationist.
   b. This article deals with ________________________
   c. The first main heading of the article tells ________ ________________________
   d. The other main points which the article deals with are:
      (1) ________________ (2) ________________
      (3) ________________ (4) ________________
   e. What kinds of lists found in this article, and for what would they be useful?
   f. Summarize in two or three sentences the content of the article.

READING SKILLS - Metal Shop

SCANNING

Pre-Test

OBJECTIVE: The purpose of the Scanning Pre-Test is to help you become aware of the importance of having skills in locating specific information both quickly and accurately.

PROCEDURE:
1. When you begin the test, record your time on the line provided.
2. Locate the books assigned in the library, in the classroom, or in the Metal Shop.
3. Working as rapidly as possible, find all the information asked for in each question.
4. When you finish the Pre-Test record your time and figure your total time. Put your total time in the space provided on your Record Sheet.

BEGINNING TIME ____________________

QUESTIONS:

1. I.A. METALS WORK

   Before ______________ screws had to be cut by hand.
   (date)

2. Cooley, R.H., Complete Metal Working

   Files are named and classified according to length, sectional form, and ____.

3. General Industry.

   There are many kinds of arc welding, such as (1) ______________.
   (2) ____, and
   (3) ____.

4. Tucker and Son Catalog.

   What is the package quantity of 1/4 dia. x 2" long carriage bolts?

5. South Bend Catalog.

   What is the cost of 6 flat, smooth 10" long files?

6. General Metals, p. 71

   What is the secondary color marking on an E6016 electrod?

7. Do All Cutting Tools Catalog, pp. 86-87.

   What is the decimal equivalent of a number 12 drill?

8. Do All Cutting Tools Catalog,

   What is the catalog number of a 10-24 N. C. 2 Flute, plug Chamfer H 3 limit Tap series No. D-305?

Concluding Time ____________

Total Time ________________

READING SKILLS - Metal Shop
SCANNING I

Job Sheet #1

OBJECTIVE: To develop the skill of scanning for specific facts

Scanning is a planned hunt-skip-read process for finding specific facts—names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it. When you scan for a specific fact, you do very little reading. Instead you allow your eyes to move rapidly over the material until you find what you are looking for.

MATERIALS: I.A. Metalwork, Unit 13, pp. 65-67

PROCEDURE: Read the following questions and scan for the answers, one at a time, following these quides:

a. Keep clearly in mind the question you want answered.
b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number of a date?
c. Move your eyes quickly over the page, looking for your clues.
d. When you find what you think is the answer, read more carefully.
e. Stop reading when you have found the correct answer.
f. Record the answer in the space provided.
g. Time yourself. Note your time on your record sheet.

QUESTIONS:

1. ____________________ is a way of cutting a spiral groove around the outside of a bolt or shaft.
2. The most common screw thread series are ____________________ and ________________ ________________.
3. The ¼" National Course bolt has ______________ threads per inch.
4. Hand taps are made as ______________, ________________, or ____________________ taps.
5. ____________________ cut internal threads.
6. ____________________ cut external threads.
7. ____________ ______________ ____________ are the same as taper taps except that they are used for holes smaller than¼".
8. A device used to hold the die is called a die ________________.
9. A complete set of common taps and dies in a wooden carrying case is called a ____________________.

Job Sheet #2

OBJECTIVE: To develop the skill of scanning for specific facts

Scanning is a planned hunt-skip-read process for finding specific facts—names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it. When you scan for a specific fact you do very little reading. Instead, you allow your eyes to move rapidly over the material until you find what you are looking for.

MATERIALS: Cooley, R.H. Complete Metal Working, "Filing," pp. 36-40.

PROCEDURE: Read the questions below and scan for the answers, one at a time, following these guides:

a. Keep clearly in mind the question you want answered.
b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date?
c. Move your eyes quickly over the page, looking for your clues.
d. Record the answer in the space provided.
e. Time yourself. Note your time on your record sheet.

QUESTIONS:

1. What is the name for the portion of the file that receives the handle?

2. Files are named and classified according to what three factors?

   a.
   b.
   c.

3. Single cut files are used on hard or soft metals?

4. What is meant by the safe edge of the file?

5. List the files named on these pages:

6. What is the main fault in filing?

7. Turning the file 90° to the __________ and moving it sideways is called ________________ filing.

READING SKILLS - Met. Sh.
SCANNING I

Job Sheet #3

OBJECTIVE: To develop the skill of scanning for specific facts.

Scanning is a planned hunt-skip-read-process for finding specific facts—names, dates, sizes, distances, prices, and similar information. When you have to locate specific facts, scanning may be the best way to do it. To scan for a specific fact you do very little reading. Instead, you allow your eyes to move rapidly over the material until you find what you are looking for.

MATERIAL: Lindbeck and Lathrop, General Industry, Chapters 33 and 34 "Adhesive Fasting of Metal, and Welding, pp. 136-142.

PROCEDURE: Read the questions below and scan for the answers, one at a time, following these guides:

a. Keep clearly in mind the question you want answered.
b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date?
c. Move your eyes quickly over the page, looking for your clues.
d. When you find what you think is the answer, read more carefully.
e. Time yourself. Note your time on your record sheet.

QUESTIONS ON UNIT 33:

1. Soldering temperatures are held below ____________ degrees.
2. Solder is a mixture (alloy) of __________ and ____________.
3. To solder successfully the work pieces must be ____________ and ____________.
4. The most common filler rods used in braying are copper alloys such as ____________________ or ______________________ alloys.

QUESTIONS ON UNIT 34:

1. _________________________ is another word for welding.
2. Pressure or force is sometimes used to help join the work pieces. This is called ______________ ___________________.
3. The most common kinds of welding are _____________, __________________, and ___________________ welding.
4. In gas welding the most common inflammable gas used is _________________.
5. Other gases that also can be used in gas welding are _________________, ____________________, and __________________.

Job Sheet #4

OBJECTIVE: To develop the skill of scanning for specific facts

Scanning is a planned hunt-skip-read-process for finding specific facts—names, dates, sized, distances, prices, and similar information. When you have to locate specific facts. scanning may be the best way to do it. To scan for a specific fact you do very little reading. Instead, you allow your eyes to move rapidly over the material until you find what you are looking for.

MATERIALS: Read the questions below and scan for the answers, one at a time, following these guides:

a. Keep clearly in mind the question you want answered.
b. Decide in what form the answer should appear. For example. should the answer be a word, a name, a number, or a date?
c. Move your eyes quickly over the page, looking for your clues.
d. When you find what you think is the answer, read more carefully.
e. Time yourself. Note your time on your record sheet.

QUESTION:

1. Name the two more common types of drives for the engine lather.
2. What heavy duty lathes use plain bearings made from what kind of material?
3. What is the lead screw's main function?
4. How is the lead screw driven?
5. The first gear of the gear train is called the ________________________.
6. All lathes use a split nut called a ______________________________.

Job Sheet #1

OBJECTIVE: To develop the skill of scanning for numerical facts

MATERIALS: Tucker and Sons Catalog, 1970.
pen or pencil

PROCEDURE:
1. In the catalog find the table of American Files and Rasps.
2. Scan the table for answers to the questions which are below.
3. Time yourself. You should be able to scan the table and answer questions 1 - 4 in ____________ minutes.

QUESTIONS:
1. How is the size of the file determined?
2. How many 8" files are packed in a box?
3. How many 10" plus files are packed in a box?
4. What would be the cost of 3 dozen mill second cut 10" long files?
5. On the diagram page 185 which cut is shown as the courest?
6. What is the difference between the plain file card and the combination?
7. No. 108 file handles are for what size file?
8. What brand files are on these pages?
9. What address will you mail to for this order?

Record time ____________________

Job Sheet #2

OBJECTIVE: To develop the skill of scanning for numerical facts.

MATERIALS: Doall Cutting Tools Catalog

PROCEDURE:
1. In the assigned catalog find the table of Micrometers, No. 850 series.
2. Scan the table for answers to the questions which are below.
3. How to scan:
   - a. Keep clearly in mind the question you want answered.
   - b. Decide in what form the answer should appear. For example, should the answer be a word, a name, a number, or a date?
   - c. Move your eyes quickly over the page, looking for your clues.
   - d. When you find what you think is the answer, read more carefully.
4. Time yourself. Note your time on Your Record Sheet.

QUESTIONS:

1. What do the symbols LNR indicate?

2. What do the symbols LNRV indicate?

3. What is the catalog number for an English measure set 0-6" LNRV.

4. What is the total cost of a 2"-3" mike English measure LNRV and carbide tipped with case?

5. Give the full description and price of the mike listed under catalog number 607-205168.

READING SKILLS - Met. Sh.
SCANNING II

Job Sheet #3

OBJECTIVE: To develop the skill of scanning for numerical facts.

MATERIALS: American Steel Catalog.

PROCEDURE:

1. Scan the assigned catalog to find the answers to the questions listed below.

2. How to scan:

   a. Keep clearly in mind the question you wnat answered.
   b. Decide in what form the answer should appear.
   c. Move your eyes quickly over the page, looking for clues.
   d. When you find what you think is the answer, read more carefully.

3. Time yourself. Note your time on your Record Sheet.

QUESTIONS:

1. Round mild steel bars can be ordered in what range of diameter?

2. What lengths are the above standard?

3. If given a cost per hundred pounds can you, by using this catalog, figure the price of a length of bar stock?

4. What is the weight per ft. of a piece 2 1/2 round mild steel bar?

5. What is the largest diameter machine bolt listed in the catalog?

6. You want to purchase a bulk container of 3/4 diameter 5 1/2" long machine bolts. How many will you get?

7. You will now need some heavy duty hexagon nuts for the above bolts. Would you have enough if you purchased a package container?

8. You now must order standard wrought washers for the same 3/4" machine bolts. If you purchased 50 lbs., would you have more or less than enough?

BEST COPY
AVAILABLE

READING SKILLS - Met. Sh.
SCANNING II

Job Sheet # 4

OBJECTIVE: To develop the skill of scanning for numerical facts.

MATERIALS: Tucker and Sons Catalog, 1970, p. 174

PROCEDURE:

1. In the above catalog is a table of prices for pliers.
2. Scan the table for prices to solve the problem listed below.
3. Time yourself. Note your time on your Record Sheet. Is your speed in locating numerical facts improving?

PROBLEM: I wish to purchase several items. Please give me the total cost of of the following order.

TYPE	NO.	SIZE	PRICE
a. Channellock Linemans	2 pr.	6"	
b. Channellock pump	6 pr.	9½"	
c. Channellock Diagonal Cutter	3 pr.	7"	
d. Gripmaster	4 pr.	12"	
e. Pocket size	2 pr.	6½"	
f. Big Champ	4 pr.	10"	

Total Cost $ ________

SCANNING III

Job Sheet #1

OBJECTIVE: To develop the skill of scanning for a name and number.

MATERIALS: General Metals, p. 263.

PROCEDURE:
1. In the assigned material find a chart of common mile-steel electrodes.
2. Following the procedure for scanning which you learned in Scanning I and Scanning II, scan for the answers, one question at a time.
3. Time yourself. Note your time on your Record Sheet.

QUESTIONS:

1. What is the one thing which all the rods listed have in common?

2. For deep penetration, would you select a 6013 rod?

3. What color designates the 6013 rod?

4. What two of these rods do we use most commonly in our metal shop? State both number and color.

   No.______________________ Color______________________

   No.______________________ Color______________________

5. Which rod has a listing for D-C only?

6. One rod in particular is given for use on pipe lines. Give its number.

7. If you were going to weld on your car bumper, which rod would you use?

8. What is the main difference between an E6013 and an E6014 rod?

SCANNING III

Job Sheet #2

OBJECTIVE: To develop the skill of scanning for a name and Number.

MATERIALS: South Bend Catalog

PROCEDURE:
1. Fill in the Part No., Description, or Item No. wherever missing.
2. Following the procedure for scanning which you have learned, locate the information as rapidly as you can. Be accurate!
3. Time yourself. Record your time on your Record Sheet.

QUESTIONS:

1. 10K U.D. Headstock Model A.B. & C.

Item No.	Part No.	Part Name
18		Oiler
		Solid Shim (List All)
10	AS512K1	
79		

2. 10' Wide Range Gear Box

Item No.	Part No.	Part Name
24		Index Plate (23)
49	AS6746R2	
22		
29		

READING SKILLS - Met. Sh.
SCANNING III

Job Sheet #3

OBJECTIVE: To develop the skill of scanning for a name and number.

MATERIALS: Feirer, General Metals, p. 71, Fig. 12-6, Table 12-1.

PROCEDURE: 1. Locate the Assigned Figure and Table.

2. Fcllwoing the procedure for scanning which you learned in Scanning I and II, scan for the answers to the questions below.

3. Time yourself. Record your time on your Record Sheet.

QUESTIONS:

1. Are number or letter drills larger in diameter?

2. What is the decimal equivalent of a number 72 drill?

3. Which is the larger in diameter, a 5/64" drill or a number 44 drill?

4. What is the diameter of the largest letter drill?

5. What is the diameter of the smallest number drill?

6. Which is the closest in size to a 7/32" diameter drill, a number 3 drill or a number 2 drill?

7. How many sets of drills are there which are smaller than 1/2"?

8. What are the number ranges of the number set?

9. What are the letter ranges of the letter set?

SCANNING III

Job Sheet #4

OBJECTIVE: To develop the skill of scanning for a name and number.

MATERIALS: Doall Cutting Tools Catalog, pp. 86-87.

PROCEDURE:

1. In the assigned material find the table of prices for taps.
2. Following the procedure for scanning which you learned in Scanning I and II, scan for the answers to the questions below.
3. Scan rapidly and accurately.
4. Time yourself. Record your time on your Record Sheet.

QUESTIONS:

1. List the price of 1 of each of the following; No. D-303:
   - a. 5/16-18 NC 2 flute plug chamfer, Limit H2
   - b. 5/8-11 NC 3 flute, plug chamfer, Limit H3
   - c. 3/4-10 NC 3 flutes, plug chamfer, Limit H3
2. List the catalog number for the following No. #-305:
   - a. 4-40 N.C. 2 Flute Plug Chamfer, Limit H1
   - b. 4-48 N.F. 2 Flute Plug Chamfer, Limit H1
   - c. 8-32 N.C. 2 Flute Plug Chamfer, Limit H2
   - d. 6-32 N.C. 2 Flute Bottoming, Limit H1

Post-Test

OBJECTIVE: The purpose of the Scanning Post-Test is to determine how much you have imporoved your scanning skills.

PROCEDURE:

1. When you begin the test, record your time on the line provided.
2. Locate the assigned books in the library, in the classroom and in the Metal Shop.
3. Working as rapidly as possible, find all the information asked for in each question.
4. When you finish the Post-Test record your time and figure your total time. Record your total time on your Record Sheet. Have you improved your scanning skills?
5. Compare the time it took you to complete this Post-Test with the time you recorded on your Pre-Test performance. Record the DIFFERENCE in number of minutes ______________________________

BEGINNING TIME ____________________ CONCLUDING TIME ____________________

TOTAL NUMBER OF MINUTES ______________________________

QUESTION:

1. Do All Cutting Tools Catalog, pp. 86-7.

   Find the catalog number of a 10-24 N, C, 2 Flute, Plug Chamfer H3 Limit Tap series No. D-305.

2. I.A. Metals Work

   Screws had to be cut by hand before what date? ____________________

3. General Metals, p. 71.

   Give the decimal equivalent of a number 12 drill. ____________________

4. Cooley, R. H., Complete Metal Working.

   Files are named and classified according to ______________, ______________

   ____________________ and ____________________.

5. General Metals, p. 264.
   Name the secondary color marking on an E6016 electrode. ____________________

6. General Industry.
   List three kids of arc welding and the page on which you find the information:
   1. ____________________ Page ____________
   2. ____________________ Page ____________
   3. ____________________ Page ____________

7. Tucker and Son Catalog

Find the cost of 6 flat, smooth, 10" long files.____________________

8. American Steel Catalog.

Give the package quantity of 1/4 dia. x 2" long carriage bolts.

9. South Bend Catalog.

Find the part number and part name for item number 20 for headstock 10 KVD, Model A, B, & C.

(Part No.) (Part Name)

Job Sheet #1

OBJECTIVE: To develop the skill of skimming for main ideas.

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writer. You still don't read every word, but you now go deeper into the material than before.

MATERIALS: Popular Mechanics, June 1970, "Make Your Own Coil Springs."

PROCEDURE:

1. Go to the library and obtain the above magazine.
2. Skim the assigned article using the following procedure:
    a. Read the title.
    b. Read the headings and subheadings.
    c. Read the first sentence of every paragraph.
    d. Read the last sentence of every paragraph more than five lines long.
3. Answer the questions below.
4. Return the magazine to the librarian.

QUESTIONS:

1. In your own words, summarize the information contained in this article.
2. What kind of wire do you use to make coil springs?
3. How much longer should the mandrel be than the spring?

Job Sheet #2

OBJECTIVE: To develop the skill of skimming for main ideas

Skimming for main ideas is a paragraph-by-paragraph search for the main ideas in a chapter or an article. When you skim for main ideas, you focus on each of the major points made by the writer. You still don't read every word, but you go deeper into the material than before.

MATERIALS: Popular Mechanics, June, 1970, "Tapping Crooked Holes? Try This Gadget."

PROCEDURE:
1. Go to the library and obtain the above magazine.
2. Skim the assigned article using the following procedure:
    a. Read the title.
    b. Read the headings and subheadings.
    c. Read the first sentence of every paragraph.
    d. Read the last sentence of every paragraph more than five lines long.
3. Answer the questions below.
4. Return the magazine to the librarian.

QUESTIONS:
1. In your own words, summarize the information contained in this article.
2. What materials do you need to make this device?

Job Sheet #3

OBJECTIVE: To develop the skill of skimming for main ideas

MATERIALS: Popular Mechanics, March 1971, "A Mini-Drill Press for Hobbyists."

PROCEDURE:
1. Go to the library and obtain the above magazine.
2. Skim the assigned article using the following procedure:
   a. Read the title.
   b. Read the headings and subheadings.
   c. Read the first sentence of every paragraph.
   d. Read the last sentence of every paragraph more than five lines long.
3. Answer the questions below.
4. Return the magazine to the librarian.

QUESTIONS:
1. In your own words, summarize the information contained in this article.
2. What kind of motor powers this press? What horsepower?
3. What maximum size drill will it take?

Job Sheet # 4

OBJECTIVE: To check how well you have learned the procedure of skimming

MATERIAL: Miller, James Nathan, "It's a Dead-End Road for the Dropout"

PROCEDURE:

1. Obtain the specified article from the file.
2. Following the skimming procedure you have been practicing in the preceding job sheets, and skim the article.
3. Answer the questions below.

QUESTIONS:

1. What happens to the person who tries to "fake" having a high school diploma?
2. List three reasons why students often drop out of school, according to the article:

   a. ______________________________

   b. ______________________________

   c. ______________________________

3. Compare working conditions and school conditions as often experieced by the dropout.

   How do they differ?

   In what ways are they alike?

4. Some jobs are "learning by doing" situations where the employer trains you. Are these increasing or decreasing?

   Are there more or less people in competition for these jobs?

5. The article states that the high shcool idploma has come to mean three things. Name them.

   a. ______________________________

   b. ______________________________

   c. ______________________________

6. A high school dropout can always enlist in the Army if he can't find a job. Yes ____ No ____

   Explain your answer.

7. An employer from Portland, Oregon, is quoted on his feelings regarding the hiring of dropouts. Summarize what he says.

READING SKILLS - Met. Sh.
ORGANIZING WHAT YOU HAVE READ

1. Explanation of a
Technical Process

Job Sheet #1

OBJECTIVE: To gain experience in reading the written and diagramatic explanation of a technical process. To be able to organize in a list the sequence of events in the process.

MATERIALS:

1. Pamphlet, "Welding and Cutting", pp. 32-33
2. Diagram of cutting torch. Obtain the diagram from the file cabinet. Return the diagram to the file when work is finished.

PROCEDURE: This is a technical selection and you should read it differently than you read literature or social studies.

This selection explains a process.

These instructions tell you how to read material that describes a process.

1. Study the diagram of the cutting torch. Read the names of the parts. Then try to name them without rereading the labels.
2. Read the introductory paragraph. Read the first section; read just one sentence at a time. If it mentions something shown on the diagram, look back at the diagram after reading the sentence. Read the next sentence the same way. Stop and think about each sentence after you have read it to make sure that the meaning is clear to you.
3. After reading the entire section in this way, try to explain to yourself without looking at the book just how the process takes place.
4. Work with each of the remaining sections in the same way that you worked the first one.
5. Then, do the following:

   List in order the steps that take place in the process which has been described. Use this job sheet for your listing.
6. Return the diagram to the file and the pamphlet to the correct shelf.

BEST COPY AVAILABLE

READING SKILLS - Metal Shop
ORGANIZING WHAT YOU HAVE READ
III. Cause and Effect

Job Sheet # 1

OBJECTIVE: To gain experience in identifying effects produced by causes.

MATERIALS: Pamphlet: Welding and Cutting, page 80, paragraph.
page 81, paragraphs 1 and 2

PROCEDURE:
1. Read the assigned paragraphs.
2. In the paragraphs assigned causes are given which lead up to an effect. Reread the paragraphs to identify the causes and effects.
3. Find two causes in paragraph 5 and sum then up in a few words on the lines following Cause.
4. Find two effects in paragraph 5 and sum them up in a few words on the lines following Effect.
5. Repeat Procedure 3 and 4 for combined Paragraphs 1 and 2 on p. 81.

Page 80, Paragraph 5:

CAUSE: 1. ______________________________
2. ______________________________

EFFECT: 1. ______________________________
2. ______________________________

Page 81, Paragraphs 1 and 2:

CAUSE: 1. ______________________________
2. ______________________________

EFFECT: 1. ______________________________
2. ______________________________

173

2

READING SKILLS - Met. Sh.
ORGANIZING WHAT YOU HAVE READ

III. Cause and Effect

Job Sheet #2

OBJECTIVE: To gain experience in identifying effects produced by causes.

MATERIALS: Machine Tool Operation, X, page 186, paragraphs 1 and 2

PROCEDURE:

1. In the paragraphs assigned causes are given which lead up to an effect. Read the paragraphs to find out what these are.
2. Find the cause in each paragraph and sum it up in a few words on the line following cause.
3. Find the effect in each paragraph and sum it up in a few words on the line following effect.

Page 186, paragraph 1:

CAUSE: ______________________________

EFFECT: ______________________________

Page 186, paragraph 2:

CAUSE: ______________________________

EFFECT: ______________________________

READING SKILLS - Met. Sh.
ORGANIZING WHAT YOU HAVE READ

IV. Instructions for a procedure

Job Sheet #1

OBJECTIVE: To read and understand instructions for carrying out a procedure.

MATERIALS: Smith, Machining of Metals, pp. 110-116.

PROCEDURE:

1. Read the assigned material slowly and with care to find out different ways to locate center and center drill.
2. Be sure to notice which sentences are directions and which are explanations.
3. On the back of this sheet answer the questions 1-3 on page 116.
4. In your own words list the procedure for each way of locating a center.
5. In your own words list the procedure for center drilling.
6. Describe briefly the result you wish to obtain when this procedure is followed.

V. Instructions for a
Procedure

Job Sheet #2

OBJECTIVE: To read and understand instructions for carrying out a procedure.

MATERIALS: Gen. Industrial Machine Shop., pp. 36-37

PROCEDURE:

1. You will learn how to work safely on a drill press.
2. Read the following directions slowly and with care. Be sure to notice which sentences are directions and which are explanations.
3. List the directions in order in a few words.
   a.
   b.
   c.
4. Answer the following questions:
   a. Why not reach behind a operating drill press?
   b. Why should you not hold the work to be drilled by hand?
   c. Describe briefly the result you wish to obtain when this procedure is followed. (Note: Appearance, size, color—what should the finished procedure or product look like?

BEST COPY AVAILABLE

Job Sheet # 3

OBJECTIVE: To read and understand instructions for carrying out a procedure.

MATERIALS: Gen. Industrial Machine Shop., pp. 36-37

PROCEDURE:

1. You will learn how to work safely on a drill press.
2. Read the following directions slowly and with care. Be sure to notice which sentences are directions and which are explanations.
3. List the directions in order in a few words.
   a.
   b.
   c.
4. Answer the following questions:

QUESTIONS:

1. Why not reach behind a operating drill press?

2. Why should you not hold the work to be drilled by hand?

3. Describe briefly the result you wish to obtain when this procedure is followed. (Note: Appearance, size, color—what should the finish procedure or product look like?)

READING SKILLS - Metal Shop
ORGANIZING WHAT YOU HAVE READ
V. Instructions for a Procedure

Job Sheet #3

OBJECTIVE: To read and understand instructions for carrying out a procedure.

MATERIALS: Gen. Industrial Machine Shop., pp. 36-37

PROCEDURE:

1. You will learn how to work safely on a drill press.
2. Read the following directions slowly and with care. Be sure to notice which sentences are directions and which are explanations.
3. List the directions in order in a few words.
    a.
    b.
    c.
4. Answer the following questions:

QUESTIONS:

1. Why not reach behind a operating drill press?

2. Why should you not hold the work to be drilled by hand?

3. Describe briefly the result you wish to obtain when this procedure is followed. (Note: Appearance, size, color-what should the finish procedure or product look like?)

REFERENCE SKILLS - Auto. Mech.
Draft
Elec.
Met. Sh.

Alphabetical Order

Job Sheet # 1

OBJECTIVE: To gain practice in alphabetizing.

MATERIALS: Information Packet on Alphabetical Order.

PROCEDURE:
1. Read the Information Packet carefully.
2. Below are some words which have been left out of the word list in the Information Packet.
3. In the space provided, write the two words that each word listed below would come between. The first one is done for you.

* * * * * *

After	Word	Before
marriage	married	marry
	1. mattress	
	2. mayor	
	3. means	
	4. melody	
	5. memorize	
	6. mend	
	7. merely	
	8. message	
	9. method	

REFERENCE SKILLS - Auto. Mech.
Draft
Elec.
Met. Sh.
Alphabetical Order

Job Sheet # 2

OBJECTIVE: To gain practice in alphabetizing.

MATERIALS: Information Packet on Alphabetical Order.

PROCEDURE:

A. Fill in the following blank spaces with the letters as they would appear in alphabetical order. The first one is done for you.

M N O ____ R ____   B ____ ____   ____ ____ Z   ____ T ____

W ____ Y   K ____ ____   ____ ____ H   ____ D ____   ____ F ____

B. Arrange the following words in alphabetical order.

summit, summer, summons, summery, summoner

1. ____________ 2. ____________ 3. ____________ 4. ____________

5. ____________

C. Write the following book titles in alphabetical order.

1. Krackles   1. ________________________
2. St. Anthony   2. ________________________
3. A Special Scrapbook   3. ________________________
4. 100 Hats   4. ________________________
5. The Middle Mountain   5. ________________________

REFERENCE SKILLS - Auto. Mech
Draft
Elec.
Met. Sh.

Alphabetical Order

Job Sheet # 3

OBJECTIVE: To gain practice in alphabetizing.

MATERIALS: Information Packet on Alphabetical Order.

PROCEDURE:

A. Decide whether each statement is true or false.
If you think the statement is true, circle the T.
If you think the statement is false, circle the F.

1. The word teacher would come before teach. T F
2. The word fiscal would appear before the word first in a dictionary. T F
3. The name McNeil would appear after the name Maas in a telephone directory. T F
4. Mt. Hope would appear after Mt. Davon in a directory. T F
5. In an alphabetical listing, officer would come after official. T F

B. The following names are to be added to a telephone book. Arrange these names in alphabetical order and write them in Column B.

	Column A	Column B
1.	Alice Meier	
2.	Carl Meyer	
3.	John McNeil	
4.	Herbert Megler	
5.	Jason Morris	
6.	Mary McAdams	
7.	Bernice Manners	
8.	Ellen Meyers	
9.	Constance Morton	
10.	Ralph Mathews	

REFERENCE SKILLS - Auto. Mech.
Draft
Elec.
Met. Sh.

Guide Words

Job Sheet # 1

OBJECTIVE: To gain practice in using dictionary Guide Words.

MATERIALS: Information Packet on dictionary Guide Words.

PROCEDURE:
1. Look at the list of words below. Take one word at a time, and look at its letters carefully.
2. Then look through the list of guide words on the Infor. Packet.
3. Find the pair of guide words that would appear on the page where your word would be found, and write these words below. The first one is done for you.

1.	card	capture	careless
2.	whiskers		
3.	jingle		
4.	drawn		
5.	jail		
6.	intend		
7.	grade		
8.	enormous		
9.	supermarket		
10.	elect		
11.	valley		
12.	zone		
13.	teach		
14.	yesterday		
15.	victory		
16.	realize		
17.	frame		

REFERENCE SKILLS - Auto Mech.
Draft
Elec.
Met. Sh.

Guide Words

Job Sheet # 2

OBJECTIVE: To gain practice in using dictionary Guide Words.

MATERIALS: Information Packet on dictionary Guide Words.

PROCEDURE:
1. Below are four pairs of guide words that could be found on dictionary pages. Under each pair of guide words is a list of words.
2. Decide which words in the list could be found on that page.
3. Circle these words.
4. Then write the circled words in alphabetical order in the space provided. Two words in Group 1 are done for you.

* * *

1. dad — darkness

decide
daisy
deal
dangerous
damp
debt
date
dam
December
dandy

a. daisy
b. dam
c. ____________
d. ____________
e. ____________

2. leap — lesson

level
lemon
library
learn
lightning
leave
less
lime
least
linen

a. ____________
b. ____________
c. ____________
d. ____________
e. ____________

3. English — equator

Eskimo
envelope
escape
enter
everybody
especially
enormous
enjoy
event
enough

a. ____________
b. ____________
c. ____________
d. ____________
e. ____________

4. upon — usual

useless
understood
unhappy
upper
unless
uniform
urge
use
unusual
upstairs

a. ____________
b. ____________
c. ____________
d. ____________
e. ____________

REFERENCE SKILLS - Auto. Mech.
Draft.
Elec.
Met. Sh.

TABLE OF CONTENTS

Job Sheet #1

OBJECTIVE: To gain practice in using a table of contents

MATERIALS: Information packet on table of contents

PROCEDURE:
1. Read the information packet on table of contents carefully.
2. Use the table of contents of the book Science for Young People (included in the information packet) to answer the following questions.

QUESTIONS:
1. On what page would you begin to read if you wanted to find out how electricity is produced by generators?
2. Write the title of the chapter which tells about how people grow.
3. If you wanted to find information on heating where would you look?
4. Write the name of that part of the book which would tell about interesting things that you can do to learn about science.
5. Write the numbers of the two chapters which tell us about water.
6. What are the three kinds of simple machines mentioned in this book?

Answer the following questions YES or NO:

____ 7. The index in this book comes before the glossary.
____ 8. "Friction" is a chapter heading.
____ 9. "Organisms" is a subtopic under Chapter V.
____ 10. Page 257 has pictures on it.
____ 11. You will probably find some information about ores under the subtopic which begins on page 12.
____ 12. You find "Heat" listed as a subtopic in this table of contents.
____ 13. Chapter V will probably tell about machines.
____ 14. There are nine chapters in this book.

REFERENCE SKILLS
TABLE OF CONTENTS

Job Sheet #2

OBJECTIVE: To gain practice in using a table of contents

MATERIALS: Information packet on table of contents

PROCEDURE:
1. Read the information packet on table of contents carefully.
2. Use the table of contents of the book Science for Young People (included in the information packet) to answer the following questions.

QUESTIONS: Answer the following questions YES or NO:

____ 1. You can find out how sound travels if you read Chapter II.
____ 2. The chapter "Simple Machines" includes generators.
____ 3. You would find meanings for special words on page 261.
____ 4. The chapter "Chemical Changes" contains a subtopic entitled "Chemicals in Air."
____ 5. The reference sections in the table of contents include a bibliography.
____ 6. This table of contents tells how many pages the index covers.
____ 7. You will probably find some information about eyes in Chapter II.
____ 8. Chapter I will probably discuss oxygen.
____ 9. Each chapter has three subtopics.
____ 10. You will find information about something which surrounds us on page 6.

Write the answers to the following questions in the space provided:

11. On what page does the section about music begin? ____________
12. Where in the book would you look if you came across a word whose meaning you didn't know? ____________________________

    On which page does it begin? ____________________________
13. Which is the longer chapter, "The World We live In" or "Seeing and Hearing"? ______________________

Job Sheet #3

OBJECTIVE: To gain practice in using a table of contents

MATERIALS: Information packet on table of contents, Part II

PROCEDURE: Read the information packet on table of contents, Part II carefully. Use the Table of Contents from the social studies book (included in Part II) to answer the following questions:

QUESTIONS:

1. What does chapter 20 say that free people need?
2. What are the names of the chapters that make up Unit 14?
3. What was a cause that led to the first world war in 1914?
4. What is the great issue which is facing the world today?
5. What brought about new ways of working?
6. Who were leaders in world trade?
7. Following what world war was the United Nations formed?
8. In what countries did dictators take over during World War I?
9. To what page would you turn if you wanted to read the chapter entitled "World Ways Today"?

Job Sheet #4

OBJECTIVE: To gain practice in using a table of contents

MATERIALS: The table of contents printed below

PROCEDURE:
1. Use the following table of contents to answer the questions below.
2. Write each answer in the space provided below each question.
3. Then write the page number on which the chapter begins on the line after the word page. The first one is done for you.

TABLE OF CONTENTS

1	How Do Scientists Get Answers?	3
Testing Ideas	Forming and Testing Hypotheses Hypotheses by Piecing Togehter Information Einstein and the Atom • Everyday Hypotheses • Testing Your Hypotheses • Another Way to Find Out	4
2	Why Condition the Air? Humidity • Relative Humidity • Finding the Relative Humidity	17
Conditioning the Air	Warming Up How Do We Get Warm by Conduction? • How Do We Get Warm by Convection? • How Do We Get Warm by Radiation?	23
	Heating Our Homes Space Heaters • Central Heating • Fire Prevention • Controlling the Humidty of Air• Heating Systems for the Future	28
	Cooling Our Homes Why Houses Get Hot in the Summer • How Do We Cool Houses? • Cooling by Moving the Air • Cooling by Shading • Cooling by Reflecting the Sun's Rays • Cooling by Air Conditioners • What Temperature is Best for You?	

* * * *

1. How do scientists test their ideas?
   a. Forming hypotheses b. Testing hypotheses Page 3
2. What are three ways in which we get warm?
   a. ____________ b. ______________ c. ____________ Page ____
3. What are four ways in which we cool our homes?
   a.
   b.
   c.
   d.

Job Sheet #1

OBJECTIVE: To gain practice in using the Index of a book.

MATERIALS: Information Packet on Index, Part 1.

PROCEDURE:
1. Read the Information Packet on Index carefully.
2. Using the sample index page in the Info. Packet, Part 1, answer the questions below. The first one is done for you.

******

QUESTIONS:

1. On what pages will we find information about what magnets can pick up? Pages 141-143
2. What does 125° after the topic "Moon" mean? ________________
3. Where can we find information about what causes night? ________________
4. Is there a picture in the book about muscles in the eye? ________________
5. What is the first page on which we can find information about milk? ______
6. Where can we locate information about how plants grow taller? ____________
7. Write the number of every page that tells about how plants with seeds grow. ________________
8. Under what topic would you look to find out if crickets molt? ____________
9. Where can we find information about the distance of the moon from the earth? ________________
10. Is there information on milk in the diet on page 167? ________________

REFERENCE SKILLS

Index

Job Sheet #2

OBJECTIVE: To gain practice in using the Index of a book.

MATERIALS: Information Packet, Index, Part I.
Sample of an Index printed below.

PROCEDURE:
1. Below is part of an index that might have been taken from a social studies book.
2. Use this index to answer the questions which follow. The first one is done for you.

* * * * * *

CORN
  in Iowa, 169
  in Ohio, 170
  in Pennsylvaina
  used by Indians, 61
  used by Pilgrims, 63-63

COWBOYS
  clothes, 14
  horses, 15-17
  Texas, 94-96
  Western, 18, 93, 112

DAIRY FARMING
  begining of, 37
  pioneer, 38
  Wisconsin, 99-101

FARMING
  in Arizonz, 184-189
  in Middle Atlantic States, 211-223
  in Middle Western States, 235, 241
  in Southwest, 257-268
  in Western States, 244-234, 272, 284

FIREARMS
  muskets, 153
  pistols, 15
  rifles, 143

QUESTIONS:

1. On what page will you find when dairy farming began in America? page 37
2. What does the social studies book tell us about cowboys? ______________________________
3. About what kind of firearms can we find information? ______________________________
4. In what states is corn grown? ______________________________
5. What pages will tell us about farming in the Western States? ______________
6. In the topic "Corn" why does the subtopic "used by Indians" come before "used by Pilgrims"? ______________________________
7. Where can we find information about dairy farming in Wisconsin? ______________

Job Sheet #3

OBJECTIVE: To gain practice in using the Index of a book.

MATERIALS: Information Packet on Index, Part II.

PROCEDURE: Read the Information Packet, Index Part II carefully. Using the Index included in the packet for reference, complete the following exercises.

A. Underline the key words you would choose to locate the following. Then write the numbers of the pages on which this information can be found. The first one is done for you.

1. A map of the Aegean Sea page 91
2. A picture of Addis Ababa page ________
3. A table about Algeria page ________
4. A diagram about Afghanistan page ________
5. A picture of an abacus page ________
6. A map showing Amman, Jordan page ________

B. Underline the key words you would choose to find information on each of the following questions. Then write the numbers of the pages on which this information can be found. The first one is done for you.

1. What are the area and climate of Africa? pages 446,408,430
2. What are some of Africa's problems? ________________________
3. What is the importance of the Adriatic Sea? ____________________
4. What can you tell of the population distribution in Africa? ________
5. Why is Amsterdam an inportant city in the Netherlands? __________
6. Why would a traveler enjoy visiting Adelaide, Australia? _________
7. In what way was Alfred the Great an important figure in history? _____ ____
8. What are some of the products for which Africa is noted? _________

Job Sheet #4

OBJECTIVE: To gain practice in using the Index of a book.

MATERIALS: Information Packet on Index, Part II.

PROCEDURE:

1. Refer to the sample index included in Info. Packet, Index Part II.
2. Underline the key words you would choose to find information on each of the following questions.
3. Then write the numbers of the pages on which this information can be found. The first one is done for you.

A. 1. Where is Abadan? page 82; m.83

2. Where is the Acropolis? page ______________

3. What was the Age of Metals? page ______________

4. Who was Alexander the Great? page ______________

5. What is aluminum? page ______________

6. Who were the aborigines of Australia? page ______________

B. Where can you find

1. A picture of the Australian aborigines? page ______________

2. A map of Accra, Ghana? page ______________

3. A table about Albania? page ______________

4. A picture of an Alphabet? page ______________

5. A map of Amsterdam? page ______________

6. A picture of an agora? page ______________

C. Below are some questions on Africa. Look in the index to find where you might locate the answer to these questions.

Write the key words in the space provided. For example, in the first question the word crops is used. The word crops is not in the index. Words in the index which mean about the same as crops are farms and farming. These would be your key words.

1. What crops are grown in Africa? ________________________________

2. Are there many diseases in Africa? ______________________________

3. How do the Africans provide enough water for their crops? ______________

4. What valuable ores are mined in Africa? ______________________________

5. What kind of education do children receive in Africa? _______________

____

REFERENCE SKILLS - Auto. Mech.
Draft.
Elec.
Met. Sh.

Glossary

Job Sheet #1

OBJECTIVE: To gain practice in using the glossary of a book

MATERIALS: Information packet on glossary

PROCEDURE:

1. Read the information packet on glossary carefully.
2. Refer to the glossary page included in the packet to answer the questions below. The first one is done for you.

QUESTIONS:

1. Why is the page number 164 after the meaning of the word enzyme?

   It tells where the word is first used.

2. Write the meaning of the following words:

   gravity:
   germs:
   fungi:
   eclipse:

3. Write sentences which help to explain the following words.

   humus:
   friction:
   filter:
   eardrum:

4. Write the page numbers where these words are first used.

   fire prevention page ____
   evaporation page ____
   iodine page ____

REFERENCE SKILLS
GLOSSARY

Job Sheet #2

OBJECTIVE: To gain practice in using the glossary of a book

MATERIALS: Information packet on glossary

PROCEDURE: 1. Review the information packet on glossary.
2. Refer to the glossary below and follow directions.

Here is part of a glossary from a social studies book. Use it to answer the questions below.

Africa (af' ri ca): the continent south of Europe, 10
Allah (al' a): the Arab word for God, 111
alphabet (al' fa bet): the sounds symbols of a language arranged in their usual order, 247
altitude (al' ti tud) : height above sea level, 151
Amazon (am' a zon): a river of South America, the largest in the world, 53
Andes (an' dez): a range of high mountains which runs through Peru, 151
Antarctica (ant ark' ti ka): the ice-covered continent around the South Pole, 10
Arab (ar' ab): belonging to a race of people who are spread over northern Africa and southwestern Asia, 109
Artic Ocean: (ark' tik): the ocean around the North Pole, 11
artist (ar' tist): a person who is skilled at painting, drawing, or some other art, 156
Asia (a' zha): the largest continent, east of Europe and Africa, 10

1. Write the meaning of the following words:
   Asia:
   Artic Ocean:
   Africa:
   Antarctica:
2. On what pages are these words first used:
   Andes page _____ alphabet page _____
   Artist page _____ Arab page _____
3. Decide whether each sentence is true or false. Write T for true and F for false in the space provided.
   a. The Amazon River is the largest in the world. _____
   b. Africa is on the continent of Europe. _____
   c. Altitude means how deep water is. _____
   d. The Arab word for God is Allah. _____

Check the answer key.

Job Sheet #1

OBJECTIVE: To gain practice in reading reference tables

MATERIALS: Information packet on reference tables

PROCEDURE: Read the information packet on reading reference tables.

Refer to the table in the information packet to answer the questions below. The first one is done for you.

* * * * *

QUESTIONS:

1. In what year did Georgia enter the Union? ______________
2. What is the capital of Maine? ______________
3. What is the area of Montana? ______________
4. What is the population of Texas? ______________
5. Which state has the smallest population? ______________
6. Which state capital has the largest population? ______________
7. Which state entered the Union most recently? ______________
8. Which state has the smallest area? ______________
9. What is the population of Wyoming's capital? ______________
10. What is the earliest date on which states were admitted to the Union? ______________
11. Which state has the largest population? ______________
12. What is the capital of Utah? ______________
13. How many states entered the Union in 1889? ______________
14. Of what state is Dover the Capital? ______________

Job Sheet #2

OBJECTIVE: To gain practice in reading Reference Tables

MATERIALS: Information packet on Reference Tables

PROCEDURE:
1. Reread the information packet on reference tables.
2. Refer to the attached reference table and follow directions.

2 MORE PRACTICE IN READING REFERENCE TABLES

Use this table to answer the questions below.

AMERICAN COUNTRIES

Country	Area in sq. mi.	Population	Capital	Population	Largest City other than Capital	Population
Argentina	1,072,467	20,737,000	Buenos Aires	6,650,000	Rosario	625,000
Bolivia	424,052	3,366,000	La Paz	375,000	Cochabamba	80,795
Brazil	3,286,344	64,837,000	Brasília	48,100	São Paulo	4,250,000
Canada	3,851,113	17,118,000	Ottawa	350,000	Montreal	1,900,000
Chile	286,322	7,560,000	Santiago	2,000,000	Valparaiso	335,000
Colombia	439,405	14,105,000	Bogotá	780,000	Medellín	510,000
Costa Rica	19,647	1,194,000	San José	180,000	Cartago	12,944
Cuba	44,217	6,627,000	Havana	1,450,000	Santiago de Cuba	175,000
Dominican Rep.	18,811	2,929,000	Ciudad Trujillo	225,000	Santiago	56,192
Ecuador	104,479	4,191,000	Quito	240,000	Guayaquil	300,000
El Salvador	8,260	2,556,000	San Salvador	240,000	Santa Ana	51,702
Guatemala	42,031	2,584,000	Guatemala	335,000	Quezaltenango	27,696
Haiti	10,711	3,492,000	Port-au-Prince	175,000	Cap Haïtien	24,957
Honduras	43,266	1,915,000	Tegucigalpa	115,000	San Pedro Sula	21,139
Mexico	758,061	33,954,000	Mexico City	5,000,000	Guadalajara	475,000
Nicaragua	57,128	1,480,000	Managua	140,000	León	30,544
Panama	28,475	1,040,000	Panamá	225,000	Colón	52,204
Paraguay	157,006	1,736,000	Asunción	235,000	Villarrica	14,680
Peru	482,133	10,640,000	Lima	1,325,000	Arequipa	112,700
United States	3,615,210	178,784,000	Washington	2,025,000	New York	15,175,000
Uruguay	72,153	2,709,000	Montevideo	850,000	Paysandú	65,000
Venezuela	352,051	6,622,000	Caracas	1,350,000	Maracaibo	300,000
West Indies Federation	8,005	3,279,000	Port-of-Spain	310,000	Kingston	330,000

When a city is the center of a metropolitan area, population figures are for the entire area.

Reference table from *Geography of the New World*, by John R. Borchert and Jane McGuigan, copyright 1961 by Rand McNally & Company.

1. Which country has the greatest area? ____________________
2. Which country has the smallest area? ____________________
3. Which country has the largest population? ____________________
4. Which country has the second largest population? ____________________
5. Which country has the capital with the largest population? ____________________
6. In which country is the city with the largest population located? ____________________
7. What is the city in Canada with the largest population? ____________________
8. What is the largest city in Ecuador? ____________________
9. How many cities with a population of over a million are listed? ____________________

EDL-R-5-4 WS

Check the answer key.

EDL STUDY SKILLS LIBRARY, EDL, HUNTINGTON, N. Y., PRINTED IN U. S. A., © 1961, BY EDUCATIONAL DEVELOPMENTAL LABORATORIES

REFERENCE SKILLS Auto. Mech.
Draft.
Elec.
Met. Sh.

Copyright Notice

Job Sheet #1

OBJECTIVE: To gain practice in reading a Copyright Notice.

MATERIALS: Information Packet on Copyright Notice.

PROCEDURE:
1. Read the Information Packet on Copyright Notice carefully.
2. Using the sheet of Copyright notices included in the packet, answer the questions below.
3. Write your answers on the lines provided.

*****

QUESTIONS:

1. What was the first publication date of each of the following books?

Book	First Publication Date
The Eastern Hemisphere	____________
Discovering Our World	____________
The Wonderful World of Science	____________
Webster's Elementary Dictionary	____________
Animals of Yesterday	____________

2. Write the names of three books on which the copyright protection has ended and tell the year in which this happened.

____________________ ____________

____________________ ____________

____________________ ____________

3. Write the names of two books on which the copyright protection would have ended if a new copyright had not been obtained. To find this answer you will have to check both the first and last publication dates.

____________________ ____________

____________________ ____________

4. Write the names of two books about medicine and give the latest publication date for each.

____________________ ________

____________________ ________

If you had to choose between these two books for material about progress in medicine, which would you select? ____

Why? ____

REFERENCE SKILLS

Copyright Notice

Job Sheet #2

OBJECTIVE: To gain practice in reading a Copyright Notice.

MATERIALS: Information Packet on Copyright Notice.

PROCEDURE:

1. Review the Information Packet on Copyright Notice.
2. Using the sheet of Copyright Notices included in the packet, complete the following exercises.
3. Write your answers on the lines provided.

* * * * *

QUESTIONS:

1. Put U on the line following the book title below, if you think that the material in the book is up to date for use as a reference. Put O on the line if the book is out of date and for that reason would not be useful as a reference. Keep in mind that not all books are out of date because they are old; that changes and new discoveries make a difference in the use of a book.

    The Wonderful World of Science ____________

    All About Dinosaurs ____________

    Animals of Yesterday ____________

    Living Together as American Neighbors ____________

    Webster's Elementary Dictionary ____________

2. Using the symbol adopted after the Universal Copyright Convention as a guide, list the books which have a copyright date since the symbol was adopted. Write the copyright date on the line to the right.

    ________________________________ ____________

    ________________________________ ____________

    ________________________________ ____________

    ________________________________ ____________

    ________________________________ ____________

    ________________________________ ____________

    ________________________________ ____________

3. Name the book in which the copyright notice tells you that a new section of that book was copyrighted.

REFERENCE - Auto. Mech.
GUIDE WORDS

Job Sheet #1

OBJECTIVE: To gain practise in using dictionary Guide Words.

MATERIAL: The American Loose Leaf Dictionary

PROCEDURE:

1. Look at the list of words below. Take one word at a time and look at its letters carefully.
2. Using The American Loose Leaf Dictionary find the pair of guide words on the page where each word would be found.
3. For each word listed in the first column write the guide words. The first one is done for you.

***

1. block ____________ ____________
2. terminal ____________ ____________
3. balance ____________ ____________
4. swing ____________ ____________
5. tread ____________ ____________
6. thrust ____________ ____________
7. keeper ____________ ____________
8. cam ____________ ____________
9. seal ____________ ____________
10. boost ____________ ____________
11. point ____________ ____________
12. stationary ____________ ____________
13. extract ____________ ____________
14. bearing ____________ ____________
15. circuit ____________ ____________
16. series ____________ ____________

REFERENCE - Auto Mech.

SPECIFIC REFERENCE

Job Sheet #1

OBJECTIVE: To learn how to find information on repair, replacement and overhaul of automobiles.

MATERIALS: Motors Repair Manual.

PROCEDURE:
1. Obtain Motors Repair Manual, 1970.
2. Find the chapter on a 1968 Jeepster.
3. Using your reference skills, answer the following questions.

QUESTIONS:

1. The compression pressure on a F4-134 engine should be?

2. The hot idle speed for a V8-327-1966 model with automatic transmission is?

3. The valve stem clearance on a 1969 6 cylinder 225 cubic inch is?

4. List the parts contained in the valve train of a 1969 V8-290 engine?

5. List below the 19 steps required to install an engine in a Jeep.

REFERENCE - Auto. Mech.
SPECIFIC REFERENCE

Job Sheet #2

OBJECTIVE: To gain practice in finding necessary and useful information for doing a particular job.

MATERIALS: Alemite's Recommended Traininig Procedure for Wheel Alignment

PROCEDURE:

1. Obtain the assigned material from the file.
2. Using your reference skills, answer the questions below.
3. Return the Alemite pamphlet on Wheel Alignment to the file.

QUESTIONS:

1. On what pages will be found information about Basic Fundamentals on Caster?
2. What does negative caster mean?
3. On what page can be found information about the causes of scuffed tires?
4. Is there a picture in the book illustrating static unbalance?
5. What is the first page on which we can find information about toe-in?
6. On what page can you locate information about front end trouble?
7. List the number of each page that contains information about tire wear.
8. Give the number of the chapter which would give you information about making alignment correction.
9. On what pages can you find information about the steering geometry of the automobile?
10. On what page would you find information about steering components?

REFERENCE - Auto. Mech.
SPECIFIC REFERENCE

Job Sheet #3

OBJECTIVE: To learn how to find information on repair, replacement, and overhaul of automobiles.

MATERIALS: Chilton Repair Manual, 1969 edition

PROCEDURE:
1. Obtain the Chilton Repair Manual, 1969.
2. Locate the section for Volkswagen.
3. Turn to the VW index and find the pages for transmission disassembly.
4. Find the information necessary to answer the following questions.
5. When you have completed the job sheet, return the Chilton Manual to the shelf.

QUESTIONS:
1. What is the No. 4 step in disassembly?
2. In assembly of transmission should a gasket be used between the block halves?
3. The proper torque for the locknut on the drive pinion assembly in ________ ft. lbs.
4. The first step to disassemble the drive pinion is to do what?
5. What is the second step in assembly of the main driveshaft?
6. What should the clearance between the axel and fulcrum plates be?
7. What is the double row pinion bearing preload?
8. Name the tool used to press out the differential.
9. What is the second step for replacing the main drive shaft oil seal?

REFERENCE SKILLS - Auto. Mech.

Table of Contents

Job Sheet #1

OBJECTIVE: To gain practice in using a Table of Contents.

MATERIALS: Information Packet on Table of Contents, and Automotive Mechanics by Crouse.

PROCEDURE: 1. Read the Information Packet on Table of Contents carefully.

2. Use the Table of Contents of the book Automotive Mechanics by Crouse to answer the following questions.

QUESTIONS:

1. On what page would you begin to read if you wanted to find out how electricity is produced by generators?

2. If you wanted to find information on cooling where would you look?

3. Write the name of that part of the book which would tell about interesting things that you can do to learn about automatic transmission service.

4. Write the numbers of the two chapters which tell about water.

5. What are three kinds of simple machines mentioned in the first chapter?

Answer the following questions Yes or No:

______ 6. The index in this book comes before the glossary.

______ 7. "Friction" is a chapter heading.

______ 8. Radial engine is a subtopic under Chapter V.

______ 9. Page 257 has pictures on it.

______ 10. You will probably find some information about specifications under the subtopic which begins on page 12.

______ 11. You find "Heat" listed as a subtopic in this Table of Contents.

______ 12. Chapter V will probably tell about machines.

______ 13. There are forty two chapters in this book.

Job Sheet #2

OBJECTIVE: To gain practice in using the Table of Contents.

MATERIALS: Information packet on Table of Contents and the textbook, Automotive Mechanics.

PROCEDURE:
1. Read the information packet carefully.
2. Use the Table of Contents from Automotive Mechanics to answer the following questions:

QUESTIONS:
1. What does chapter 20 say about a tapered journal that is out of round?
2. Name three conditions in the cylinder block that could cause uneven main bearing wear?
3. Explain how to check main-bearing fit with plastigage.
4. What is meant by servicing the crankshaft?
5. Name the paragraph on how to hone cylinder walls.
6. What oils or fluids are used to hone culinder walls?
7. Name the paragraph on how to bore a cylinder.

REFERENCE SKILLS - Auto. Mech.
Table of Contents

Job Sheet #1

OBJECTIVE: To gain practice in using a Table of Contents.

MATERIALS: Information packet on Table of Contents, and Automotive Mechanics by Crouse.

PROCEDURE:
1. Read the information packet on Table of Contents carefully.
2. Use the table of contents of the book Automotive Mechanics by Crouse to answer the following questions.

QUESTIONS:
1. On what page would you begin to read [illegible] you wanted to find out how electricity is produced by generators?
2. If you wanted to find information on cooling where would you look?
3. Write the name of that part of the book which would tell about interesting things that you can do to learn about automatic transmission service.
4. Write the numbers of the two chapters which tell about water.
5. What are three kinds of simple machines mentioned in the first chapter?

Answer the following questions Yes or No:

________ 6. The index in this book comes before the glossary.

________ 7. "Friction" is a chapter heading.

________ 8. Radial engine is a subtopic under Chapter V.

________ 9. Page 257 has pictures on it.

________10. You will probably find some information about specifications under the subtopic which begins on page 12.

________11. You find "Heat" listed as a subtopic in this table of Contents.

________12. Chapter V will probably tell about machines.

________13. There are forty-two chapters in this book.

REFERENCE SKILLS-Draft.

Alphabetical Order

Job Sheet 1

OBJECTIVE: To gain practice in alphabetizing.

MATERIALS: Information Packet on Alphabetical Order and Architectural & Building Trades Dictionary by Townsend, Burke & Dalzell.

PROCEDURE:
1. Read the Information Packet carefully.
2. Below are some words which have been left out of the word list found in the Trades Dictionary.
3. In the space provided, write the two words that each word listed below would come between. The first one is done for you.

After	Word	Before
aggregate	1. African mahogany	aerograph
	2. air drain	
	3. anchor	
	4. angle shaft	
	5. arbor	
	6. axis	
	7. baluster	
	8. bargeboard	
	9. batter	
	10. bore	
	11. box frame	
	12. brazier	
	13. bridging joist	
	14. buttery	
	15. canopy	
	16. carrel	
	17. catch	
	18. ceil	
	19. cheek	
	20. cinder fill	

REFERENCE SKILLS - Draft.

Alphabetical Order

Job Sheet #2

OBJECTIVE: To gain practice in alphabetizing.

MATERIALS: Bibliography - Drafting

PROCEDURE: Put each of the authors into correct alphabetical order.

Aurthors

1. Thomas
2. Dougherty
3. Giachine & Beukema
4. Raisz
5. Hepler
6. Ramsey
7. Luzadder
8. Pyeatt
9. Guptill
10. Svensen
11. Gibby
12. Watson
13. Zipprich
14. Brown
15. Woover

1. ______________________________
2. ______________________________
3. ______________________________
4. ______________________________
5. ______________________________
6. ______________________________
7. ______________________________
8. ______________________________
9. ______________________________
10. ______________________________
11. ______________________________
12. ______________________________
13. ______________________________
14. ______________________________
15. ______________________________

REFERENCE SKILLS - Draft.

Alphabetical order

Job Sheet #3

OBJECTIVE: To gain practice inalphabetizing.

MATERIALS: Bibliography - Drafting

PROCEDURE: Write the following book titles in alphabectical order.

Titles	Alphabetical Order
1. Graphic Architecture Drafting	1. ________
2. Technical Illustration	2. ________
3. Sheet Metal Pattern	3. ________
4. Mechanical Drawing	4. ________
5. Design Textbook	5. ________
6. Principles of Cartography	6. ________
7. Engineering Drawing	7. ________
8. General Drafting	8. ________
9. Industrial Arts	9. ________
10. Technical Drawing	10. ________
11. Drafting Fundamentals	11. ________
12. Problems in Architectural Drafting	12. ________
13. Course in Pencil Sketching	13. ________
14. Freehand Drafting For Technical Sketching	14. ________
15. How to Use Creative Perspective	15. ________

REFERENCE SKILLS - Draft.
Guide Words - Architecture

Job Sheet #1

OBJECTIVE: To gain practice in using dictionary Guide Words.

MATERIALS: Information Packet on dictionary Guide Words, and Architecture & Building Trades Dictionary. Burke, and Dalzell.

PROCEDURE:

1. Look at the list of words below. Take one word at a time and look at its letters carefully.
2. Then look through the list of guide words on the Info. Packet.
3. Find the pair of guide words that would appear on the page where your word would be found and write those words below. The first one is done for you.

1.	gate house	gas log	Georgian Architecture
2.	Gothic		
3.	slab		
4.	panel		
5.	granite		
6.	annealed wire		
7.	foot pace		
8.	header joist		
9.	jalousies		
10.	tenon		
11.	wind beam		
12.	veneer		
13.	staircase		
14.	balcony		
15.	calking		
16.	tenement ~~house~~		
17.	rammer		
18.	lag screw		
19.	gazebo		
20.	fireproof		

REFERENCE SKILLS - Drafting
Guide Words - Architecture

Job Sheet #2

OBJECTIVE: To gain practice in using dictionary Guide Words.

MATERIALS: Information Packet on dictionary Guide Words and Architectural & Building Trades Dictionary by Townsend.

PROCEDURE:

1. Below are five pairs of guide words that could be found on dictionary pages. Under each pair of guide words is a list of words.
2. Decide which words in the list could be found on that page.
3. Circle these words.
4. Then write the circled words in alphabetical order in the space provided. Two words in Group I are done for you.

1.	Bandage	bar handle	a.	band saw
	balcony	barefoot	b.	Banister
	baptistry	bar	c.	
	baluster	banister	d.	
	band saw	balloon framing	e.	
	balk	balance sash	f.	
2.	Camber piece	cantilever joists		
	campanile	caliper	a.	
	calking	canopy	b.	
	camber arch	canalists	c.	
	caliber	cambium	d.	
	cancelli	calyx	e.	
3.	ceiling hook	center punch		
	center line	centigrade	a.	
	cell	center piece	b.	
	cedar	cesspool	c.	
	cement gum	cavil	d.	
	canal	cellar	e.	
4.	door detail	door strip		
	door step	doorhead	a.	
	doorframe details	domical vault	b.	
	dome	door check	c.	
	doorbell	doorcasing	d.	
	door post	doorstep	e.	

5. expansion strip   eyebrow dormer

eyebolt
expansion bit
escalator
exterior wall
extender

extra heavy
expansion sleeve
exonarthex
estimating
excavator

a. ______________________
b. ______________________
c. ______________________
d. ______________________
e. ______________________

INDEX

Job Sheet #1

OBJECTIVE: To gain practice in using the Index of a book.

MATERIALS: Information Packet on Index, Part I and Engineering and Drawing by French and Vierck.

PROCEDURE: 1. Read the Information Packet on Index carefully.

2. Using the sample index page in the Info. Packet Part I, answer the questions below. The first one is done for you.

QUESTIONS:

1. On what pages will be found information about aeronautical maps and symbols?
2. Write the number of every page that tells information about dimensioning a cylinder.
3. Is there information about fasteners used in wood on Page 373? ____________________ and on what pages do you find threaded pines? ____.
4. Where can you find information about diagrams in electricity?
5. Where can you find information about heat power symbols?
6. Is there a picture on orthographic projection showing the different views? ______________________ on what page?
7. On what page can you find information about pictorial sketching?
8. On Pages A42 to A47, what mathematical functions are shown?
9. On Page 18, fig. 18.2, what information does it give?
10. On Page 457, what charts are illustrated?

INDEX

Job Sheet #2

OBJECTIVE: To gain practice in using the Index of a book.

MATERIALS: Information Packet on Index, Part II, and Engineering Drawing by French.

PROCEDURE: 1. Read the information Packet, Index, Part II carefully.

2. Using the index include the packet for reference, complete the following exercises.

3. Underline the key words you would choose to locate the following. Then write the numbers of the page on which this information can be found. The first one is done for you.

EXERCISE:

1. Calipers are divices to take measurement. Page 402.
2. Most commercial and advertising signs are made with boldface letterings. Page _____
3. Objects whose true size are not shown in the orthographic views are mostly diverted to auxillary projections. Page _____
4. Isometric projections are always presented at thirty degrees. Page _____
5. Oblique hexagonal pyramids has six sides. Page _____
6. A drawing of perspective projection. Page _____
7. Pictorial sketches are always necessary in technical sketching. Page _____
8. Dimensioning an object is related to size desription. Page _____
9. T-squares are divices to draw horizontal lines. Page _____
10. View spacing is necessary so that the drawing will be balances within the space provided. Page _____

Job Sheet #1

OBJECTIVE: To gain experience in finding information on architectural standards - design, electrical, plumbing.

MATERIALS: Architecture; Design, Engineering, Drawing.

PROCEDURE: Making use of the index and table of contents in the assigned material, locate the information to answer the following questions.

QUESTIONS:

1. How will the source of light in a room be controlled? Explain.
2. How do you determine the average spacing of electrical outlets in:
   (a). bedrooms

   (b). living room

   (c). kitchen
3. What are the heights of the switches and outlets in the living room and kitchen? Explain.
4. Explain the word special control?

Job Sheet #2

OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms.

MATERIALS: Architectural and Building Trades Dictionary.

TERMS:

1. Backing
2. Riser
3. Soffit
4. Hip
5. Miter
6. Furring
7. Flashing
8. Batter Boards
9. Coping
10. Girder

REFERENCE - DRAFT

Specific Reference

Job Sheet #3

OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms.

MATERIALS: Dictionary of Technical Terms

PROCEDURE: 1. Making use of your alphabetizing skill and the Guide Words in the dictionary, locate and write out definitions for the following terms:

TERMS:

1. Cantileuer
2. Teurplate
3. Keyway
4. Ashlar
5. Bearing Wall
6. Sill
7. Lintel
8. Bridging
9. Ashlar
10. Clorol

Job Sheet #4

OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms.

MATERIALS: Dictionary of Technical Terms

PROCEDURE: 1. Making use of your alphabetizing skill and the Guide Words in the dictionary, locate and write out definitions for the following terms:

TERMS:

1. Camber
2. Valley
3. Purlins
4. Lintel
5. Diagonals
6. Clearance
7. Girt
8. Cover Plate
9. Beam
10. Joist

REFERENCE SKILLS - Elec.

Alphabetical Order

Job Sheet #1

OBJECTIVE: To gain practice in alphabetizing.

MATERIALS: Information Packet on Alphabetical Order.
Modern Dictionary Of Electronics.

PROCEDURE:
1. Read the Information Packet carefully.
2. Look up the words in the Modern Dictionary Of Electronics.
3. In the space procided, write the two words that each word listed below would come between. The first one is done for you.

After	WORD	Before
marriage	1. married	marry
	2. cable	
	3. dry cell	
	4. emitter	
	5. ground	
	6. ICBC	
	7. Kc	
	8. P.A. System	
	9. Rf	
	10. zoom	

4. In the card catalogue in the library, find the call numbers for the following books. Write the call number in the blank.

1. 48,000,000 Horses ______________
2. A Programmed Course in Basic Electricity ______________
3. ABC's of Electronic Test Probes ______________
4. A Giant Set ______________
5. The Making of the Electrical Age

REFERENCE SKILLS - Elec.
GUIDE WORDS

Job Sheet #1

OBJECTIVE: To gain practice in using dictionary guide words

MATERIALS: Howard Sams' Modern Dictionary of Electronics

PROCEDURE:

1. Below are four pairs of guide words that are found on dictionary pages in Modern Dictionary of Electronics. Under each pair of guide words is a list of words.
2. Decide which words in the list could be found on that page.
3. Circle these words.
4. Then write the circled words in alphabetical order in the space provided.
5. Check the Modern Dictionary of Electronics when you have finished to determine if your answers are correct.
6. Turn in job sheet.

1. backward-wave tube — balanced voltage

balance
balancer
balanced-wire circuit
bakelite
baffle

bar
bandstop filter
balanced line
balanced voltage
band width

a. ____________________
b. ____________________
c. ____________________
d. ____________________
e. ____________________

2. dial cable — dielectric constant

dielectric current
dielectric guide
dielectric amplifier
dial light
dial

die banding
dielectric capacitor
diamond antenna
detent
DF

a. ____________________
b. ____________________
c. ____________________
d. ____________________
e. ____________________

3. screen angle — secondary color

screen grid
SCR
secondary cell
search coil
selector

secondary color
secondary line
search gate
seam welding
scope
schematic

a. ____________________
b. ____________________
c. ____________________
d. ____________________
e. ____________________

4. N.V. — off-delay

OAO
octal
Nyquist interval
off center display
null

off set
ohm meter
ohm's law
oil
octave

a. ____________________
b. ____________________
c. ____________________
d. ____________________
e. ____________________

REFERENCE SKILLS - Elec.
GUIDE WORDS

Job Sheet #2

OBJECTIVE: To gain practice in using dictionary guide words

MATERIALS: Information packet on dictionary guide words

PROCEDURE:

1. Look at the list of words below. Take one word at a time, and look at its letters carefully.
2. Then look through the guide words in Modern Dictionary of Electronics.
3. Find the pair of guide words that appear on the page where your word would be found, and write these guide words below. The first one is done for you.

1.	Card	capture	careless
2.	Fixed resistor		
3.	Inductance		
4.	K		
5.	Motherboard		
6.	Pf		
7.	Relay		
8.	Multiplex		
9.	Vacuum tube		
10.	Yoke		
11.	Stereo		
12.	Probe		
13.	Arc		
14.	AVC		
15.	A.C.		
16.	D.C.		
17.	Beta		

Job Sheet #1

OBJECTIVE: To gain practice in using a Table of Contents.

MATERIALS: Information Packet on Table of Contents.
ABC's of Capacitors

PROCEDURE:
1. Read the Information Packet on Table of Contents carefully.
2. Use the Table of Contents of the book, ABC's of Capacitors, to answer the following questions.

QUESTIONS:

1. On what page would you begin to read if you wanted to find out units of measurements for capacitors?
2. If you wanted to find information on ceramic capacitors, where would you look?
3. Write the name of that part of the book which would tell about capacitor testing.
4. Write the numbers of the two chapters which tell the construction of a capacitor.
5. What are the nine kinds of capacitors mentioned in this book?

Answer the following questions Yes or No:

_____ 6. The index in this book comes before the glossary.

_____ 7. "Testing" is a chapter heading.

_____ 8. "Lead length" is a subtopic under Chapter V.

_____ 9. Page 60 has pictures on it.

_____10. You will probably find some information about temperature under the subtopic which begins on page 77.

_____11. You find "out of circuit capacitor checker" listed as a subtopic in this table of contents.

_____12. Chapter V will probably tell about position of a capacitor.

_____13. There are nine chapters in this book.

Job Sheet #2

OBJECTIVE: To gain practice in using a Table of Contents.

MATERIALS: Information Packet on Table of Contents.
ABC's of Capacitors

PROCEDURE: 1. Read the Information Packet on Table of Contents carefully.

2. Use the Table of Contents of the book ABC's of Capacitors, to answer the following questions.

QUESTIONS:

A. Write Yes if the statement is correct. Write No if the statement is not correct.

_____ 1. You can find out how a capacitor works if you read Chapter II.

_____ 2. The chapter "Capacitor Application" includes soldering precautions.

_____ 3. The chapter "Capacitor Theory" contains a subtopic entitled "Capacitor Safety."

_____ 4. The reference sections in the table of contents include a bibliography.

_____ 5. This table of contents tells how many pages the index covers.

_____ 6. You will probably find some information about power factor in Chapter II.

_____ 7. Chapter I will probably discuss farad.

_____ 8. Each chapter has three subtopics.

_____ 9. You will find information about something on how capacitors work on page 6.

Job Sheet #1

OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms on the Audio-Frequency Amplifier

MATERIALS: The Dictionary of Electrical Terms

PROCEDURE: Making use of the Handbook of Electrical Terms and the Guide Words in the dictionary, locate and write out definitions for the following terms:

TERMS:

1. Coupling capacitor
2. Resistance coupling
3. Microphone
4. Amplifier, Audio-frequency
5. Grid resistor
6. Phonograph pickup
7. Amplification, Stage of
8. Potentiometer
9. Transformer coupling
10. Plate resistor
11. Audio frequency (AF)
12. Piezoelectric effect

REFERENCE - Elec.

GLOSSARY

Job Sheet #2

OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms on the Vacuum-Tube Dectector - The Triode.

MATERIALS: Dictionary of Electrical Terms

PROCEDURE: Making use of your alphabetizing skill and the Guide Words in the dictionary, locate and write out definitions for the following terms:

TERMS:

1. Grid
2. Circuit, plate
3. Rheostat
4. Meg.
5. Volume control
6. Battery-Filament
7. Selectivity
8. Grid bias
9. Triode
10. Ohm
11. Battery - plate
12. Sensitivity
13. Circuit, grid
14. Grid leak
15. Battery-grid-bias
16. Grid capacitor

Job Sheet #3

OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms on modulation.

MATERIALS: Dictionary of Electrical Terms

PROCEDURE: Making use of your alphabetizing skill and the Guide Words in the dictionary, locate and write out definitions for the following terms:

TERMS:

1. Facsimile transmission
2. Amplitude modulation
3. Discriminator
4. Crystal microphone
5. Capacitor microphone
6. Channel
7. Carbon microphone
8. Cathode modulation

REFERENCE - Elec.
GLOSSARY

Job Sheet #4

OBJECTIVE: To gain experience in finding definitions and abbreviation of technical terms on the Cathode-Ray tube.

MATERIALS: Dictionary of Electrical Terms

PROCEDURE: Making use of your alphabetizing skill and the Guide Words in the dictionary, locate and write out definitions for the following terms.

TERMS:

1. Oscillograph
2. Linear timing - axis oscillator
3. Focusing electrode
4. Photoelectric materials
5. PPI radar
6. Tuning-eye tube
7. Iconoscope
8. Sawtooth oscillator, or sweep oscillator
9. Horizontal deflecting plates
10. Radar
11. Linear sweep
12. Television
13. Mosaic screen
14. Thyratron
15. Vertical deflection plates

REFERENCE - Elec.
GLOSSARY

Job Sheet #5

OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms on Radio Antennas.

MATERIALS: Dictionary of Electrical Terms

PROCEDURE: Making use of your alphabetizing skill and the Guide Words in the dictionary, locate and write out defintions for the following terms:

TERMS:

1. Center feed
2. Folded dipoe antenna
3. Loading
4. Voltage-fed antenna
5. Standing wave
6. Antinodes
7. Hertz antenna
8. Transmission lines
9. Marconi antenna
10. Vertical radiation pattern
11. Radiation pattern
12. Current-fed antenna
13. Lumped inductances and capacitances
14. Refelctor
15. End feed
16. Horizontal radiation pattern
17. Dipole antenn
18. Loops
19. Nodes
20. Radiation resistance
21. Distributed inductance and capacitances
22. Feeder lines
23. Resonant transmission lines
24. Nonresonant transmission line
25. Harmonics
26. Fundamental frequency

Job Sheet #6

OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms on Eliminating the C Battery.

MATERIALS: Dictionary of Electrical Terms

PROCEDURE: Making use of your alphabetizing skill and the Guide Words in the dictionary, locate and write out definitions for the following terms:

TERMS:

1. Grid-leak and capacitor bias
2. Cathode resistor
3. Fixed bias
4. Cathode bypass capacitor
5. Self bias
6. Contact bias
7. C-Battery eliminator

230

REFERENCE - Elec.
GLOSSARY

Job Sheet #7

OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms on the Dynamic Speaker

MATERIALS: Dictionary of Electrical Terms

PROCEDURE: Making use of your alphabetizing skill and the Guide Words in the dictionary, locate and write out definitions for the following terms:

TERMS:

1. Voice call
2. Dynamic speaker
3. Output transformer
4. Permanent-magnet dynamic speaker
5. Electromagnetic dynamic speaker
6. Field coil
7. Spider
8. Permanent magnet

Job Sheet #9

OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms on electron-tube amplifiers

MATERIALS: Dictionary of Electrical Terms

PROCEDURE: Making use of your alphabetizing skill and the Guide Word in the dictionary, locate and write out definitions for the following words.

TERMS:

1. Audio-frequency amplifier
2. Frequency distortion
3. Distortion
4. Impedance matching
5. Degenerative feedback
6. Nonlinear distortion
7. Class AB amplifier
8. Power amplifier
9. Class A amplifier
10. Class B amplifier
11. Voltage amplifier
12. Negative feedback
13. Class C amplifier
14. Delay distortion
15. Inverse feedback
16. Overloading
17. Phase distortion
18. Third harmonic
19. Radio-frequency amplifier
20. Second harmonic

REFERENCE - Elec.
GLOSSARY

Job Sheet #10

OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms on Tube and Transistor Characteristics

MATERIALS: Dictionary of Electrical Terms
Handbook of Electrical Terms

PROCEDURE: Making use of your alphabetizing skill and the Guide Words in the dictionary, locate and write out definitions for the following terms:

TERMS:

1. Alpha
2. Amplification factor
3. Beta
4. Plate dissipation
5. Mercury-vapor rectifier
6. Characteristic curve
7. Voltage amplification or gain
8. Saturation current
9. Dynamic characteristic curves
10. Emission current
11. Static characteristic curves
12. Plate characteristic curve
13. Power Sensitivity
14. Plate efficiency
15. Mutual conductance
16. Plate resistance
17. Transfer characteristic curve
18. Transconductance
19. Space charge
20. Saturation point

REFERENCE - Elec.
GLOSSARY

Job Sheet #11

OBJECTIVE: To gain experience in finding definitions and abbreviations of technical terms on the Electron tube Oscillator

MATERIALS: Dictionary of Electrical Terms
Handbook of Electrical Terms

PROCEDURE: Making use of your alphabetizing skill and the Guide Words in the dictionary, locate and write out definitions for the following words:

TERMS:

1. Colpitts oscillator
2. Oscillator
3. Tank
4. Electron-Coupled oscillator
5. Hartley Oscillator
6. Crystal oscillator
7. Continuous radio frequency
8. Feedback
9. Piezoelectric effect
10. Tuned-grid or tuned-plate oscillator
11. Carrier

JOB SHEET #1

OBJECTIVE: To find the cheapest way to build the following project, by ordering the parts from the company which offers the lowest price.

MATERIALS:
1. Radio Shack 1970 Annual catalogue.
2. Lafayette Radio Electronics.
3. Catalogue 710, Electronic 1970 Components.

PROJECT: Timer - moisture - light activated relay. Find copy in folder.

PROCEDURE:
1. Look up the components in the above three catalogues and list the parts which are cheaper.
2. Fill in the order blanks below, ordering from each company those parts which that company offers at the cheapest price.

RADIO SHACK 1970

Quantity	Number and description	Individual price	Total price

LAFAYETTE RADIO ELECTRONICS

Quantity	Number and description	Individual price	Total price

ELECTRONIC 1970 COMPONENTS

Quantity	Number and description	Individual price	Total price

REFERENCE - Met. Sh.
ALPHABETIZING

Job Sheet #1

OBJECTIVE: To gain practice in alphabetizing.

MATERIALS: The subheadings under the main heading "Cutting of Threads" contained on this sheet

PROCEDURE: Place the subheadings in column 1 in correct alphabetical order in column 2.

ALPHABETICAL order as in an index

1. Cutting of Threads

questions on
metric
on taper
without threading dial
gearing lathe for
Acme
internal
American National
left-hand
square
without reverse belt
with compound rest
step-by-step procedure
multiple

2. Cutting of Threads

Job Sheet #2

OBJECTIVE: To gain practice in alphabetizing

MATERIALS: The subheadings under the main heading "Drills, angle and length of lips of" contained on this sheet

PROCEDURE: Place the subheadings in column 1 in correct alphabetical order in column 2.

1. Drills, angle, and length of lips of:

    parts and functions of
    three-fluted
    calculation of r.p.m. for
    farmer
    sizes of, table
    oil-tube
    grinding
    straight-fluted
    flat
    twist
    cutting lubricants
    speeds for
    feeds for
    types of
    sharpening of

Alphabetical order as in index:

2. Drills, angle and length of lips of:

REFERENCE - Met. Sh.
Copyright

Job Sheet #1

OBJECTIVE: To find out the protection a copyright gives an author.

MATERIALS: Goldberg, AFL-CIO Labor United.

PROCEDURE: 1. Read the copyright of the assigned book.

2. Answer the following quiestions:

a. What is the copyright date?

b. List the protection given the author by the copyright:

(1).

(2).

(3).

REFERENCE - Met. Sh.
Copyright

Job Sheet #2

OBJECTIVE: To find out the protection a copyright gives an author.

MATERIALS: Cooley, *Complete Metal Working*.

PROCEDURE: 1. Read the copyright of the assigned book.

2. Answer the following questions:

   a. What is the copyright date?

   b. What is the exception for copying from this book?

REFERENCE - Met. Sh.

INDEX

Job Sheet #1

OBJECTIVE: To gain practice in using the Index of a book

MATERIALS: Brohead - Garrett Catalog, 1971

PROCEDURE:
1. Turn to the Index in the assigned material.
2. Answer the following questions.

QUESTIONS:

1. What does it mean when an asterisc (*) appears in this Index?

2. Give the page numbers on which you would find the following:

Item	Page no.
a. Bench Grinder	
b. Mill File	
c. Hook Rule	
d. Last word Indicator	
e. Drill Chuck	
f. Bench Vise	
g. Tap and Die Set	
h. Safety Goggles	
i. Machine Oil	
j. Precision Milling Machine	
k. Magnetic Base Indicator Holder	
l. Welding Electrods	

REFERENCE - Met. Sh.

INDEX

Job Sheet #2

OBJECTIVE: To gain practice in using the index of a book.

MATERIALS: Do-All Catalog

PROCEDURE: 1. Turn to the Index in the assigned material.

2. Give the page numbers for the following:

	Item	Page no.
a.	Points, Diamond Mounted hack	
b.	Saw Blades	
c.	Tool Bits, High Speed Steel	
d.	Micometer Check Set	
e.	Die Stock	
f.	Micrometer Case	
g.	Plastic Face Hammer	
h.	C-Clamp	
i.	Drill Chuck	
j.	Abrasive Belts	
k.	Boring Bars	
l.	Machinist, Universal Vise	

REFERENCE - Met. Sh.

Index

Job Sheet #3

OBJECTIVE: To practice using an Index to obtain necessary and useful information.

MATERIALS: Bolt.
Machinery Handbook.

PROCEDURE:

1. Go to Mr. Simpson to get a bolt; be sure he gives you the outside diameter of the bolt.

2. Using your reference skills and index of The Machinery Handbook find the information required to drill and tap a hole to fit the bolt.

3. In the space below list all index headings useful for obtaining the information you need to do the following:

   a. Determine whether the bolt is National Course or National fine thread.

   b. Identify the kind of bolt.

   c. Find out what size tap drill to use.

   d. Find out what size tap.

List below the Index headings in The Machinery Handbook used to obtain information required to drill and tap a hole to fit a particulàr bolt:

REFERENCE - Met. Sp.

Table of Contents

Job Sheet #1

OBJECTIVE: To practice obtaining specific information from the Table of Contents of a book.

MATERIALS: Kursh, *Apprenticeships in America*.

PROCEDURE:

1. Skim the Table of Contents of the assigned book.
2. Answer the following Questions:
    - a. How many numbered headings are there?
    - b. If you were looking for information on machinist occupations, which chapter would be most useful to you?
    - c. How many appendixes are listed?
    - d. What information is found in the bibliography section?
    - e. How many tables are listed?

TECH. TERMINOLOGY - Auto. Mech.
ABBREVIATIONS

Job Sheet #1 - Pre-Test

OBJECTIVE: Pre-test to determine which of the following abbreviations and symbols you know and which you need to learn.

MATERIALS: The following list of 25 words
Pen or pencil

PROCEDURE:

1. For each term below write the correct abbreviation and/or symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:

   Information Packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the Pre-Test, obtain the Post-Test from the file and follow instructions.

PRE-TEST:

Term	Abbrev.
1. American Wire Gage	
2. Ammeter	
3. Ampere	
4. Ampere hour	
5. approximate	
6. arc weld	
7. area	
8. assemble	
9. assembly	
10. automatic	
11. auxiliary	
12. baffle	
13. balance	
14. British Thermal Units	
15. bronze	
16. burnish	
17. bypass	
18. cadmium plate	
19. calibrate	
20. capacitor	
21. cap screw	
22. cast	
23. cast iron	
24. cast steel	
25. circular pitch	

Job Sheet #1 - Post Test

OBJECTIVE: Post-test to determine which of the following abbreviations you know and which you still need to learn.

MATERIALS: The following list of 25 abbreviations
Pen or pencil

PROCEDURE:
1. For each abbreviation below write the correct term in full.
2. Turn in your completed post-test.

POST-TEST:

Abbrev.	Term	Abbrev.	Term
1. CP		14. AWG	
2. BAF		15. BTU	
3. BAL		16. BRZ	
4. AUTO		17. BHN	
5. AUX		18. BVP	
6. ASSY		19. CAL	
7. A		20. [illegible]	
8. ASSEM		21. CAP SCR	
9. ARC-W		22. CAP	
10. APPROX		23. C	
11. AMP HR		24. CI	
12. AMP		25. CS	
13. AN			

TECH. TERMINOLOGY - Auto. Mech.
ABBREVIATIONS

Job Sheet #2 - Pre-Test

OBJECTIVE: Pre-Test to determine which of the following abbreviations and symbols you know and which you need to learn.

MATERIALS: The following list of 25 words
Pen or pencil

PROCEDURE:

1. For each term below write the correct abbreviation and/or symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:

   Info. Packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the Pre-Test, obtain the Post-Test from the file and follow instructions.

PRE-TEST:

Term	Abbrev.	Term	Abbrev.
1. circumference		15. cycles per minute	
2. clearance			
3. clockwise		16. cylinder	
4. clutch		17. degree	
5. cold drawn		18. density	
6. cold rolled		19. detail	
7. combustion		20. diagonal	
8. counterclockwise		21. diameter	
9. counterbalance		22. diaphragm	
10. counter-sink other-side		23. differential	
11. cross section		24. diode	
12. cubic		25. direct current	
13. current			
14. cycle			

Job Sheet #2 - Post-test

OBJECTIVE: Post-test to determine which of the following abbreviations and symbols you know and which you still need to learn.

MATERIALS: The following list of 25 abbreviations
Pen or pencil

PROCEDURE:
1. For each abbreviation below write the correct term in full.
2. Turn in your post-test when you have completed it.

POST-TEST:

Abbrev.	Term	Abbrev.	Term
1. DC		14. CV	
2. DIO		15. X SECT	
3. DIFF		16. CSK-O	
4. DIA		17. CBAL	
5. DIAPH		18. CCW	
6. DIAG		19. CIRC	
7. DIST		20. CL	
8. DEG		21. CW	
9. D		22. CL	
10. CYL		23. DC	
11. CMP		24. CR	
12. CUR		25. COMB	
13. CU			

TECH. TERMINOLOGY - Auto. Mech.
ABBREVIATIONS

Job Sheet #3 - Pre-Test

OBJECTIVE: Pre-Test to determine which of the following abbreviations and symbols you know and which you need to learn.

MATERIALS: The following list of 25 words.
Pen

PROCEDURE:

1. For each term below, write the correct abbreviation and/or symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:

   Info. packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the Pre-Test, obtain the post-test from the file and follow instructions.

PRE-TEST:

Term	Abbrev.	Term	Abbrev.
1. Directional		14. end to end	
2. discharge		15. equipment	
3. disconnect		16. estimate	
4. distribute		17. evaporate	
5. dowel		18. exhaust	
6. draw		19. expand	
7. drill		20. exterior	
8. drill rod		21. external	
9. drive		22. extra heavy	
10. drive fit		23. fabricate	
11. each		24. Fahrenheit	
12. eccentric		25. feed	
13. electric			

TECH. TERMINOLOGY - Auto. Mech.
ABBREVIATIONS

Job Sheet # 3 - Post-test

OBJECTIVE: Post-test to determine which of the following abbreviations you know and which you still need to learn.

MATERIALS: The following list of 25 abbreviations
Pen

PROCEDURE:
1. For each abbreviation below write the correct term.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet!
3. Study and learn those you have missed.
4. Hand post-test in to teacher.

POST-TEST

Abbrev.	Term	Abbrev.	Term
1. FD		14. X HVY	
2. F		15. EXT	
3. FAB		16. EXP	
4. EXT		17. EVAP	
5. EXH		18. EST	
6. EQUIP		19. ELEC	
7. E to E		20. EA	
8. ECC		21. DR	
9. DF		22. DR	
10. DR		23. DWL	
11. DR		24. DISCH	
12. DISTR		25. DIR	
13. DISC			

Job Sheet #4 - Pre-Test

OBJECTIVE: Pre-test to determine which of the following abbreviations and symbols you know and which you need to learn.

MATERIALS: The following list of 25 words
Pen

PROCEDURE:
1. For each term below, write the correct abbreviation and/or symbol.
2. Obtain answer key from file and correct your work. Asnwers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:

   Info. Packet: Study Procedure for Learning Abbreviations and Symbols.
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

PRE-TEST:

Term	Abbrev.	Term	Abbrev.
1. feet		14. flexible	
2. feet per minute		15. float	
3. feet per second		16. fluid	
4. female		17. flush	
5. figure		18. foot	
6. filament		19. force	
7. fillet		20. forward	
8. finish		21. frame	
9. fireproof		22. freezing point	
10. fitting		23. friction horsepower	
11. fixture		24. fuel	
12. flange		25. fusion point	
13. flat head			

Job Sheet #4 - Post-Test

OBJECTIVE: Post-test to determine which of the following abbreviations you know and which you still need to learn.

MATERIALS: The following list of 25 abbreviations
Pen

PROCEDURE:

1. For each abbreviation below write the correct term.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet!
3. Study and learn those you have missed.
4. Hand post-test in to teacher.

POST-TEST:

Abbrev.	Term	Abbrev.	Term
1. FMP		14. FP	
2. F		15. FR	
3. FHP		16. RWD	
4. FL		17. F	
5. FLT		18. FT	
6. FLEX		19. FL	
7. FH		20. FLG	
8. FTG		21. FIX	
9. FPRF		22. FIL	
10. FIN		23. FPM	
11. FIL		24. FPS	
12. FIG		25. FT	
13. FEM			

TECH. TERMINOLOGY - Auto. Mech.
ABBREVIATIONS

Job Sheet #5 - Pre-Test

OBJECTIVE: Pre-test to determine which of the following abbreviations and symbols you know and which you need to learn.

MATERIALS: The following list of 25 words
Pen

PROCEDURE:
1. For each term below, write the correct abbreviation and/or symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:
   Info. packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

PRE-TEST:

Term	Abbrev.	Term	Abbrev.
1. gage or gauge		14. ground	
2. gallon		15. half round	
3. galvanize		16. handle	
4. gas		17. heat treat	
5. gasket		18. heater	
6. gasoline		19. high pressure	
7. general		20. high speed	
8. government		21. high speed steel	
9. governor		22. high voltage	
10. graduation		23. highwat	
11. graphic		24. horizontal	
12. grind		25. horsepower	
13. groove			

Job Sheet # 5 - Post-Test

OBJECTIVE: Post-test to determine which of the following abbreviations you know and which you still need to learn.

MATERIALS: The following list of 25 abbreviations
Pen

PROCEDURE:
1. For each abbreviation below write the correct term.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet!
3. Study and learn those you have missed.
4. Hand post-test in to teacher.

POST-TEST:

Abbrev.	Term	Abbrev.	Term
1. HP		14. HOR	
2. HWY		15. HV	
3. HS		16. HSS	
4. HP		17. HT TR	
5. HTR		18. GRV	
6. ½ RD		19. GRD	
7. GRD		20. GRAD	
8. GRAPH		21. GOV	
9. GOVT		22. GASO	
10. GEN		23. GSKT	
11. GAL		24. G	
12. GA		25. GALV	
13. HDL			

TECH. TERMINOLOGY - Auto. Mech.
ABBREVIATIONS

Job Sheet #6 - Pre-Test

OBJECTIVE: Pre-test to determine which of the following abbreviations and symbols you know and which you need to learn

MATERIALS: The following list of 25 words
Pen

PROCEDURE:
1. For each term below, write the correct abbreviation and/or symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:

   Info. packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

PRE-TEST:

Term	Abbrev.	Term	Abbrev.
1. hot-rolled steel		14. inspect	
2. hydraulic		15. install	
3. identify		16. instruct	
4. ignition		17. instrument	
5. illuminate		18. interchangeable	
6. illustrate		19. interior	
7. impact		20. interlock	
8. hour		21. internal	
9. include		22. interrupt	
10. indicate		23. interruptions per minute	
11. industrial		24. invert	
12. information		25. jack	
13. inlet			

Job Sheet #6 - Post-test

OBJECTIVE: Post-test to determine which of the following abbreviations you know and which you still need to learn.

MATERIALS: The following list of 25 abbreviations
Pen

PROCEDURE:
1. For each abbreviation below write the correct term.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. Study and learn those you have missed.
4. Hand post-test in to teacher.

POST-TEST:

Abbrev.	Term	Abbrev.	Term
1. FD		14. XHVY	
2. F		15. EXT	
3. FAB		16. EXP	
4. EXT		17. EVAP	
5. EXH		18. EST	
6. EQUIP		19. ELEC	
7. E to E		20. EA	
8. ECC		21. DR	
9. DF		22. DR	
10. DR		23. DWL	
11. DR		24. DISCH	
12. DISTR		25. DIR	
13. DISC			

TECH. TERMINOLOGY - Auto. Mach.
ABBREVIATIONS

Job Sheet #7 - Pre-Test

OBJECTIVE: Pre-test to determine which of the following abbreviations and symbols you know and which you need to learn.

MATERIALS: The following list of 25 words
Pen

PROCEDURE:
1. For each term below write the correct abbreviation and/or symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:

   Info. packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

PRE-TEST:

Term	Abbrev.	Term	Abbrev.
1. job order		14. low explosive	
2. joint		15. low pressure	
3. key		16. low tension	
4. key seat		17. low voltage	
5. keyway		18. low speed	
6. kile		19. low torque	
7. kilometer		20. lubricate	
8. lacquer		21. lubricating oil	
9. leading edge		22. machine	
10. left hand		23. main	
11. length overall		24. malleable	
12. light		25. manual	
13. liquid			

Job Sheet #7 - Post-Test

OBJECTIVE: Post-test to determine which of the following abbreviations you know and which you still need to learn.

MATERIALS: The following list of 25 abbreviations
Pen

PROCEDURE:
1. For each abbreviation below write the correct term.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet!
3. Study and learn those you have missed.
4. Hand post-test in to teacher.

POST-TEST:

Abbrev.	Term	Abbrev.	Term
1. LO		14. JO	
2. LUB		15. KM	
3. LT		16. LAQ	
4. LS		17. KWY	
5. LV		18. KST	
6. LT		19. JT	
7. LD		20. K	
8. LE		21. JO	
9. LIQ		22. MAN	
10. LT		23. MALL	
11. LOA		24. MN	
12. LH		25. MACH	
13. LE			

Job Sheet #8 - Pre-Test

OBJECTIVE: Pre-test to determine which of the following abbreviations and symbols. you know and which you need to learn.

MATERIALS: The following list of 25 words
Pen

PROCEDURE:
1. For each term below write the correct abbreviation and/or symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:
   Info. packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

PRE-TEST:

Term	Abbrev.	Term	Abbrev.
1. manufacture		14. miles per hour	
2. manufactured		15. minute	
3. material		16. mixture	
4. maximum		17. model	
5. maximum working pressure		18. modify	
6. mechanical		19. modulator	
7. mechanism		20. motor	
8. medium		21. mounted	
9. melting point		22. mounting	
10. metal		23. national	
11. micrometer		24. negative	
12. miles		25. nickel-silver	
13. miles per gallon			

Job Sheet #8 - Post-Test

OBJECTIVE: Post-test to determine which of the following abbreviations you know and which you still need to learn.

MATERIALS: The following list of 25 abbreviations
Pen

PROCEDURE:
1. For each abbreviation below write the correct term.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet!
3. Study and learn those you have missed.
4. Hand post-test into teacher.

POST-TEST:

Abbrev.	Term	Abbrev.	Term
1. MI-SIL		14. MFG	
2. MATL		15. MTD	
3. MTG		16. MOT	
4. MOD		17. MOD	
5. MIX		18. MIN	
6. MPH		19. MI	
7. MPH		20. MP	
8. MOD		21. MECH	
9. MIC		22. MEX	
10. MAT		23. MATL	
11. MED		24. MFD	
12. MECH		25. MPG	
13. MMP			

TECH. TERMINOLOGY - Draft.
Met. Sh.

ABBREVIATIONS

Job Sheet #1 - Pre-Test

OBJECTIVE: Pre-Test to determine which of the following abbreviations and symbols you know and which you need to learn.

MATERIALS: The following list of 25 words
Pen

PROCEDURE:
1. For each term below write the correct abbreviation and/or symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:
   Info. Packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

PRE-TEST:

Term	Abbrev. or Symbol
1. Safety	
2. Sand blast	
3. Screw	
4. Section	
5. Set screw	
6. Shaft	
7. Shipment	
8. Shop order	
9. Side	
10. Sketch	
11. Solder	
12. Specific	
13. Specification	
14. Spindle	
15. Spot-faced	
16. Square	
17. Stainless	
18. Standard	
19. Stiffener	
20. Steel	
21. Stock	
22. Taper	
23. Tee	
24. Teeth per inch	
25. Template	

TECH. TERMINOLOGY - Draft.
Met. Sh.

ABBREVIATIONS

Job Sheet #1 - Post-Test

OBJECTIVE: Post-test to determine which of the following abbreviations and symbols you know and which you still need to learn.

MATERIALS: The following list of 25 words
Pen

PROCEDURE: 1. For each term below write the correct abbreviation.

POST-TEST:

Term	Abbreviation
1. Safety	
2. Sand blast	
3. Screw	
4. Set screw	
5. Shipment	
6. Side	
7. Solder	
8. Specification	
9. Spot-faced	
10. Stainless	
11. Steel	
12. Stock	
13. Tee	
14. Template	
15. Section	
16. Shaft	
17. Shop order	
18. Sketch	
19. Specific	
20. Spindle	
21. Square	
22. Standard	
23. Stiffner	
24. Taper	
25. Teeth per inch	

OBTAIN ANSWER KEY FROM FILE AND CORRECT YOUR WORK. ANSWERS MUST BE IDENTICAL TO ANSWER SHEET! STUDY AND LEARN THOSE YOU HAVE MISSED!

TECH. TERMINOLOGY - Draft.
Met. Sh.

ABBREVIATIONS

Job Sheet #2 - Pre-Test

OBJECTIVE: Pre-test to determine which of the following abbreviations and symbols you know and which you need to learn.

MATERIALS: The following list of 25 words
Pen

PROCEDURE:
1. For each term below write the correct abbreviations.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file: Info. Packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

PRE-TEST:

TERM	ABBREVIATION
1. Tension	
2. Thick	
3. Thread	
4. Through	
5. Tinned	
6. Tolerance	
7. Tool steel	
8. Tooth	
9. Tubing	
10. Typical	
11. United States gage	
12. United States Standard	
13. vertical	
14. Washer	
15. Weight	
16. American wire gage	
17. Ampere	
18. Arc weld	
19. Assemble	
20. Assembly	
21. British Standard	
22. Broach	
23. Bronze	
24. Brown and sharp	
25. Burnish	

ABBREVIATIONS

Job Sheet #2 - Post-test

OBJECTIVE: Post-test to determine which of the following abbreviations you know and which you still need to learn.

MATERIALS: The following list of 25 words
Pen

PROCEDURE:
1. For each term below write the correct abbreviation.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet!
3. Study and learn those you have missed.

POST-TEST:

Term	Abbreviation
1. Tension	
2. Thread	
3. Tinned	
4. Tool steel	
5. Tubing	
6. United States gage	
7. Vertical	
8. Weight	
9. Ampere	
10. Assemble	
11. British Standard	
12. Bronze	
13. Burnish	
14. Thick	
15. Through	
16. Tolerance	
17. Tooth	
18. Typical	
19. United States Standard	
20. Washer	
21. American wire gage	
22. Arc weld	
23. Assembly	
24. Broach	
25. Brown and sharp	

ABBREVIATIONS

Job Sheet #3 - Pre-test

OBJECTIVE: Pre-test to determine which of the following abbreviations and symbols you know and which you need to learn.

MATERIALS: The following list of 25 words
Pen

PROCEDURE:

1. For each term below write the correct abbreviation.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file: Info. packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

PRE-TEST:

Term	Abbreviation
1. Bushing	
2. Cadmium plate	
3. Cap screw	
4. Cast iron	
5. Cast iron pipe	
6. Cast steel	
7. Castings	
8. Circular pitch	
9. Clearance	
10. Cold drawn	
11. Cold rolled	
12. Cold rolled steel	
13. Counterbore	
14. Counterdrill	
15. Counterpunch	
16. Countersink	
17. Countersink otherside	
18. Decimal	
19. Dedendum	
20. Deep drawn	
21. Degree	
22. Detail	
23. Diagram	
24. Diameter	
25. Diametral pitch	

TECH. TERMINOLOGY- Draft.
Met. Sh.

ABBREVIATIONS

Job Sheet #3 - Post-test

OBJECTIVE: Post-test to determine which of the following abbreviations you know and which you still need to learn.

MATERIALS: The following list of 25 words
Pen

PROCEDURE:
1. For each term below write the correct abbreviation.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet!
3. Study and learn those you have missed.

POST-TEST:

Term	Abbreviation
1. Bushing	
2. Cap screw	
3. Cast iron pipe	
4. Castings	
5. Clearance	
6. Cold rolled	
7. Counterbore	
8. Counterpunch	
9. Countersink otherside	
10. Dedendum	
11. Degree	
12. Diagram	
13. Diametral pitch	
14. Cadmium plate	
15. Cast iron	
16. Cast steel	
17. Circular pitch	
18. Cold drawn	
19. Cold rolled steel	
20. Counterdrill	
21. Countersink	
22. Decimal	
23. Deep drawn	
24. Detail	
25. Diameter	

TECH. TERMINOLOGY - Draft.
Met. Sh.

ABBREVIATIONS

Job Sheet #4 - Pre-test

OBJECTIVE: Pre-test to determine which of the following abbreviations and symbols you know and which you need to learn.

MATERIALS: The following list of 25 words
Pen

PROCEDURE:
1. For each term below write the correct abbreviation.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:
   Info. Packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

PRE-TEST:

Term	Abbreviation
1. Dimension	
2. Drafting	
3. Drawing	
4. Drill	
5. Drill rod	
6. Drop forge	
7. Fabricate	
8. Feed	
9. Feet	
10. Feet per minute	
11. Feet per second	
12. Fillet	
13. Finish	
14. Finish all over	
15. Fitting	
16. Fixture	
17. Flange	
18. Foot	
19. Forging	
20. Foundary	
21. Fractional	
22. Gage or gauge	
23. Galvanized	
24. Galvanized iron	
25. Galvanized steel	

ABBREVIATIONS

Job Sheet #4 - Post-test

OBJECTIVE: Post-test to determine which of the following abbreviations you know and which you still need to learn.

MATERIALS: The following list of 25 words
Pen

PROCEDURE:
1. For each term below write the correct abbreviation.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet!
3. Study and learn those you have missed.

POST TEST:

Term	Abbreviation
1. Dimension	
2. Finish	
3. Drafting	
4. Finish all over	
5. Drawing	
6. Fitting	
7. Drill	
8. Fixture	
9. Drill rod	
10. Flange	
11. Drop forge	
12. Foot	
13. Fabricate	
14. Forging	
15. Feed	
16. Foundry	
17. Feet	
18. Fractional	
19. Feet per minute	
20. Gage or gauge	
21. Feet per second	
22. Galvanized	
23. Fillet	
24. Galvanized iron	
25. Galvanized steel	

TECH. TERMINOLOGY - Draft.
Met. Sh.

ABBREVIATIONS

Job Sheet #5 - Pre-test

OBJECTIVE: Pre-test to determine which of the following abbreviations and symbols you know and which you need to learn.

MATERIALS: The following list of 30 words
Pen

PROCEDURE:
1. For each term below write the correct abbreviation.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:
   Info. packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

PRE-TEST:

Term	Abbreviation
1. galvanized steel wire rope	
2. graduation	
3. grind	
4. groove	
5. ground	
6. half round	
7. hard-drawn	
8.. harden	
9. heat treat	
10. heavy	
11. hexagon	
12. high speed	
13. high-speed steel	
14. horizontal	
15. hot rolled	
16. hot-rolled steel	
17. hydraulic	
18. illustrate	
19. inch	
20. include	
21. indicate	
22. industrial	
23. information	
24. inspect	
25. instruct	
26. iron	
27. joint	
28. key	
29. key seat	
30. keyway	

ABBREVIATIONS

Job Sheet #5 - Post-Test

OBJECTIVE: Post-test to determine which of the following abbreviations you know and which you still need to learn.

MATERIALS: The following list 30 words
Pen

PROCEDURE:

1. For each term below write the correct abbreviation.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet!
3. Study and learn those you have missed.

POST-TEST:

Term	Abbreviation
1. Keyway	
2. Hot rolled	
3. Key seat	
4. Horizontal	
5. Key	
6. High-speed steel	
7. Joint	
8. High speed	
9. Iron	
10. Hezagon	
11. Instruct	
12. Heavy	
13. Inspect	
14. Heat treat	
15. Information	
16. Harden	
17. Industrial	
18. Hard-drawn	
19. Indicate	
20. Half round	
21. Include	
22. Ground	
23. Inch	
24. Groove	
25. Illustrate	
26. Grind	
27. Hydraulic	
28. Graduation	
29. Hot-rolled steel	
30. Galvanized steel wire rope	

TECH. TERMINOLOGY - Elec.
ABBREVIATIONS

Job Sheet #1 - Pre-Test

OBJECTIVE: Pre-test to determine which of the following abbreviations you know and which you need to learn.

MATERIALS: The following list of 25 words
Pen or pencil

PROCEDURE:
1. For each term below write the correct abbreviation.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:
   Info. Packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

PRE-TEST:

Term	Abbreviation
1. schematic	
2. screw	
3. shop order	
4. short wave	
5. signal	
6. sink	
7. socket	
8. socenoid	
9. speaker	
10. sound	
11. specification	
12. split phase	
13. switch	
14. system	
15. television	
16. that is	
17. thermostat	
18. time-delay closing	
19. time-delay opening	
20. toggle	
21. transformer	
22. transmission	
23. transmitter	
24. transmitting	
25. trimmer	

Job Sheet #1 - Post-test

OBJECTIVE: Post-test to determine which of the following abbreviations and symbols you know and which you still need to learn.

MATERIALS: The following list of 25 words.
Pen or pencil

PROCEDURE: For each term below write the correct abbreviation.

POST-TEST:

Term	Abbrev.
1. split phase	
2. trimmer	
3. specification	
4. transmitting	
5. sound	
6. transmitter	
7. speaker	
8. transmission	
9. socenoid	
10. transformer	
11. socket	
12. toggle	
13. sink	
14. time-delay opening	
15. signal	
16. time-delay closing	
17. short wave	
18. thermostat	
19. shop order	
20. that is	
21. screw	
22. television	
23. schematic	
24. system	
25. switch	

TECH. TERMINOLOGY - Elec.
ABBREVIATIONS

Job Sheet #2 - Pre-Test

OBJECTIVE: Pre-test to determine which of the following abbreviations you know and which you need to learn.

MATERIALS: The following list of 25 words
Pen or pensil

PROCEDURE:

1. For each term below write the correct abbreviation.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:

   Info. packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

PRE-TEST:

	Term	Abbrev.
1.	triope	
2.	tuned radio frequency	
3.	ultra-high frequency	
4.	under voltage	
5.	United States Standard	
6.	universal	
7.	vacuum	
8.	vacuum tube	
9.	variable	
10.	variable-frequency oscillator	
11.	very high frequency	
12.	very low frequency	
13.	video-frequency	
14.	voice frequency	
15.	volt	
16.	volt ampere	
17.	voltmeter	
18.	volts per mic	
19.	watt	
20.	watt-hour	
21.	watt-hour meter	
22.	watt meter	
23.	wet bulb	
24.	wire	
25.	ampere	

Job Sheet #2 - Post - Test

OBJECTIVE: Post-test to determine which of the following abbreviations you know and which you still need to learn.

MATERIALS: The following list of 25 words
Pen or pencil

PROCEDURE: For each term below write the correct abbreviation.

POST-TEST:

Term	Abbrev.
1. ampere	
2. very low frequency	
3. wire	
4. very high frequency	
5. wet bulb	
6. variable-frequency oscillator	
7. watt meter	
8. variable	
9. watt-hour meter	
10. vacuum tube	
11. watt-hour	
12. vacuum	

Term	Abbrev.
13. watt	
14. universal	
15. volts per mic	
16. United States Standard	
17. voltmeter	
18. under voltage	
19. volt ampere	
20. ultra-high frequency	
21. volts	
22. tuned radio frequency	
23. voice frequency	
24. triope	
25. video-frequency	

Job Sheet #3 - Pre-test

OBJECTIVE: Pre-test to determine which of the following abbreviations you know and which you need to learn.

MATERIALS: The following list of 25 words
Pen or pencil

PROCEDURE:

1. For each term below write the correct abbreviation.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file:

   Info. packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

PRE-TEST:

Term **Abbreviations**

1. amplifier
2. antenna
3. audio-frequency
4. automatic
5. auto-transformer
6. baffle
7. battery
8. capacity
9. centimeter
10. circuit
11. coaxial
12. compressor
13. conduct
14. conductor
15. conduit
16. continuous
17. control valve
18. control switch
19. counterclockwise
20. current
21. cycle
22. cycles per minute
23. cycles per second
24. decimal
25.

TECH. TERMINOLOGY - Elec.
ABBREVIATIONS

Job Sheet #4 Post-Test

OBJECTIVE: Post-test to determine which of the following abbreviations you know and which you still need to learn.

MATERIALS: The following list of 25 abbreviations
Pen

PROCEDURE:
1. For each abbreviation below write the correct term.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet!
3. Study and learn those you have missed.
4. Hand post-test in to teacher.

POST-TEST

Abbrev.	Term	Abbrev.	Term
1. FLOUR		14. HV	
2. FIL		15. FNP	
3. FIX		16. VLF	
4. ELEC		17. FSBL	
5. F		18. UHF	
6. DYN		19. VHF	
7. DISCH		20. SHF	
8. DC		21. FM	
9. DISC		22. MF	
10. DIO		23. LF	
11. DET		24. HF	
12. IND		25. FREQ.	
13. H			

Job Sheet #1 - Pre-test

OBJECTIVE: Pre-test to determine which of the following symbols and abbreviations you know and which you need to learn.

MATERIALS: The following list of words
Pen or pencil

PROCEDURE:

1. For each term below write the correct abbreviation and/or symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file: Info. packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

SWITCHES - PRE-TEST:

Symbol	Abbreviations
1. Switch S.P.D.T.	
2. Switch. S.P.S.T. (Normally Open)	
3. Switch. S.P.S.T. (Normally closed)	
4. Key	
5. Switch, Push Button (two-circuit)	
6. Switch, Push Button (Normally closed)	
7. Switch Push Button (Normally open)	
8. Switch thermal	
9. Switch, knife (Disconnect)	
10. Switch momentary contact	
11. Dial Switch Telephone Type	
12. Switch pressure (Increasing pressure closed)	
13. Switch. D.P.S.T.	
14. Switch pressure (Decreasing pressure closes)	
15. JACK	
16. Switch, Rotary (Multiple contacts)	
17. PLUG	

Job Sheet #1 - Post-Test

OBJECTIVE: Post-test to determine which of the following abbreviations and symbols you know and which you still need to learn.

MATERIALS: The following list or words
Pen or pencil

PROCEDURE: For each term below write the correct symbol and/or abbreviation.

SWITCHES - POST-TEST:

Symbol Abbreviation

1. Switch S.P.D.T.
2. Switch, S.P.S.T.
(Normally open)
3. Switch, S.P.S.T.
(Normally closed)
4. Key
5. Switch, Push button
(two-circuit)
5. Switch, Push button
(Normally closed)
6. Switch, Push button
(normally closed)
7. Switch push button
Normally open
8. Switch, thermal
9. Switch, knife
Disconnect
10. Switch momentary contact
11. Dial switch telephone type
12. Switch pressure
(Increasing pressure closes)
13. Switch, D.P.S.T.
14. Switch pressure
(Decreasing pressure closes)
15. JACK
16. Switch, rotary
(Multiple contacts)
17. PLUG

TECH. TERMINOLOGY - Elec.
SYMBOLS and/or ABBREVIATIONS

Job Sheet #2 - Pre-Test

OBJECTIVE: Pre-test to determine which of the following symbols and abbreviations you know and which you need to learn.

MATERIALS: The following list of words
Pen or pencil

PROCEDURE:
1. For each term listed below write the correct abbreviation and/or symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file: Info. Packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

LOUDSPEAKERS - PRE-TEST:

Symbol	Abbreviation

1. General
2. Magnetic
3. P-M Dynamic
4. Electrodynamic

VIBRATORS

5. Synchronous
6. Buzzer
7. Nonsynchronous

PICKUP OR CUTTING HEAD

8. General
9. Electromagnetic
10. Crystal

PHONES

11. Single
12. Double

A-C VOLTAGE SOURCE

13.

ANTENNA SYSTEM

14. Antenna
15. Loop
16. Ground
17. Counterpoise

LAMPS

18. DS Jewelled Lamp
19. DS Push-to-test lamp

GENERATOR

20.

MOTOR

21.

BALLAST

22.

Job Sheet #2 - Post-test

OBJECTIVE: Post-test to determine which of the following abbreviations and symbols you know and which you still need to learn.

MATERIALS: The following list of words
Pen or pencil

PROCEDURE: For each term below write the correct symbol.

POST-TEST:

Term Symbol

PHONES
1. Single
2. Double

ANTENNA SYSTEM
3. Antenna
4. Loop
5. Counterpoise
6. Ground

A-C VOLTAGE SOURCE
7.

BALLAST
8.

GENERATOR
9.

PICKUP OR CUTTING HEAD
10. General
11. Electromagnetic
12. Crystal

MOTOR
13.

VIBRATORS
14. Synchronous
15. Buzzer
16. Nonsynchronous

LOUDSPEAKERS
17. Electrodynamic
18. P-M Dynamic
19. Magnetic
20. General

LAMPS
21. DS Jeweled lamp
22. DS Push-to-test lamp

TECH. TERMINOLOGY - Elec.
ABBREVIATIONS and/or SYMBOLS

Job Sheet #3 - Pre-test

OBJECTIVE: Pre-test to determine which of the following abbreviations and symbols you know and which you need to learn.

MATERIALS: The following list of 30 terms
Pen or pencil

PROCEDURE:

1. For each term below write the correct symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file: Info. packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

PRE-TEST:

TERM	SYMBOL
1. Filament	
2. Indirectly heated cathode	
3. Cold cathode	
4. Photo-electric cathode	
5. Loop coupling	
6. Gas-filled	
7. Pool cathode	
8. Grid	
9. Deflecting electrode	
10. Anode	
11. X-ray target	
12. Internal shield	
13. Dynode	
14. Ignitor	
15. Excitor	
16. Single-cavity envelope	
17. Double-cavity envelope	
18. Triode	
19. Pentode	
20. Cathode-ray indicator tube	
21. Cold-cathode gas diode	
22. Phototube	
23. Cathode-ray tube	
24. Magnetron	
25. Split magnetron	
26. Single-cavity velocity-modulated tube	
27. Double-cavity velocity-modulated tube	
28. Multiplier phototube	
29. Ignition with grid	
30. Excitron with grid and holding anode	

Job Sheet #3 - Post-Test

OBJECTIVE: Post-test to determine which of the following symbols you know and which you still need to learn.

MATERIALS: The following list of 30 terms.

PROCEDURE: For each term below write the correct symbol.

POST-TEST:

Term	Symbol
1. Excitor	
2. Ignitor	
3. Ignition with grid	
4. Multiplier phototube	
5. Dynode	
6. Internal shield	
7. Double-cavity velocity-modulated tube	
8. Single-cavity velocity-modulated tube	
9. X-ray target	
10. Anode	
11. Split magnetron	
12. Magnetron	
13. Deflecting electrode	
14. Grid	
15. Cathode-ray tube	
16. Phototube	
17. Pool cathode	
18. Gas-filled	
19. Cold-cathode Gas diode	
20. Cathode-ray indicator tube	
21. Loop coupling	
22. Photoelectric cathode	
23. Cold cathode	
24. Indirectly heated cathode	
25. Triode	
26. Pentode	
27. Double-cavity envelope	
28. Single-cavity envelope	
29. Filament	
30. Excitron with grid and holding anode	

Job Sheet #4 - Pre-Test

OBJECTIVE: Pre-test to determine which of the following symbols you know and which you need to learn.

MATERIALS: The following list of terms
Pen/pencil

PROCEDURE:
1. For each term below write the correct symbol.
2. Obtain answer key from file and correct your work. Answers must be identical to answer sheet.
3. If you have one or more errors, obtain the following from the file: Info. Packet: Study Procedure for Learning Abbreviations and Symbols
4. When you have learned those you missed on the pre-test, obtain the post-test from the file and follow instructions.

PRE-TEST: SEMICONDUCTORS

Term Symbol

1. Controlled rectifier diode
2. Half-wave diode
3. Photo diode
4. Tunnel diode
5. Zener diode
6. PNP transistor
7. Full-wave bridge rectifier
8. NPN transistor
9. Unijunction transistor
10. Double anode zener diode

TERMINAL BOARD

11.

THERMO-COUPLE

12.

THERMOELEMENT

13. Directly heated
14. Indirectly heated

SERVO CONTROL DEVICES

15. CT control transformer
or
CX control transmitter
or
Synchro repeater
16. TDX
Torque differential transmitter
or
CDX
Control differential transmitter

JP CONNECTORS

17. Socket contact
18. Pin contact

Job Sheet #4 - Post-Test

OBJECTIVE: Post-test to determine which of the following abbreviations and symbols you know and which you still have to learn.

MATERIALS: The following list of terms

PROCEDURE: For each term below write the correct symbol.
Hand in your post-test.

POST-TEST:

Term — Symbol

SEMICONDUCTORS

1. Controlled rectifier diode
2. Half-wave diode
3. Tunnel diode
4. Zener diode
5. Photo diode
6. Full-wave bridge rectifier
7. PNP transistor
8. NPN transistor
9. Unijunction transistor
10. Double anode zener diode

TERMINAL BOARD

11.

THERMO-COUPLE

12.

THERMOELEMENT

13. Directly heated
14. Indirectly heated

SERVO CONTROL DEVICES

15. CT control transformer
 or
 CX control transmitter
 or
 Synchro repeater
16. TCX torque differential transmitter
 or
 CDX control differenctial transmitter

J/P CONNECTORS

17. Socket contact
18. Pin contact

BEST COPY AVAILABLE

CORRESPONDENCE - Auto. Mech.
Draft.
Elec.
Met. Sh.

LETTER OF REQUEST

Job Sheet #1

OBJECTIVE: To examine a sample letter of request and to evaluate it according to the following standards for writing any request letter.

MATERIALS: The following letter of request.
Pen

INFORMATION: Standards for writing a letter of request:

a. Be courteous. This holds for all letters. Make use of such words as please, appreciate, grateful.
b. State the request briefly but clearly.
c. Be sure that the request is not excessive or unjust. This check is especially necessary when you send letters asking for pamphlets and the like.

PROCEDURE:
1. Read the following letter.
2. Answer the questions at the end of the sheet.

SAMPLE REQUEST LETTER

12 Maple Drive
Palenville, New York 78230
April 4, 1970

Kennedy Bookstores, Incorporated
2 Pershing Square
New York, New York 78213

Gentlemen:

I have become very much interested in radio as a possible career. Before I decide definitely whether or not to go into the subject seriously, I should like to read a good introductory book on the subject.

Have you a book that meets the requirements? Naturally I do not want a highly technical book. If you have such an introductory book, please inform me as to the name, author, publisher, and price. A word or two about the book's contents would assist me greatly.

Very truly yours,

Edward Otis

QUESTIONS:
1. Check the letter against each of the three rules as stated above.
2. Does the writer disobey any of the rules?
3. If your answer is "yes," list which ones.

BEST COPY AVAILABLE

CORRESPONDENCE - Auto. Mech.
Draft.
Elec.
Met. Sh.

LETTER OF REQUEST

Job Sheet #2

OBJECTIVE: To examine a sample letter of request and to evaluate it according to standards for writing any request letter.

MATERIALS:
1. The following letter of request and two additional letters of request from the file.
2. Pen.

INFORMATION:
1. Be courteous. This holds for all letters. Make use of such words such as please, appreciate, grateful.
2. State the request beiefly but clearly.
3. Be sure that the request is not excessive or unjust. This check is especially necessary when you send letters asking for pamphlets and the like.

PROCEDURE:
1. Read the following letter.
2. Answer the questions at the end of the sheet.
3. Follow steps 1 and 2 for each of the request letters from the file. Answer questions at the bottom of the letter.

SAMPLE REQUEST LETTER

113 Oak Street
Scranton, Pennsylvania
13231
March 30, 1970

Pennsylvania State Conservation Dept.
Harrisburg, Pennsylvania 18245

Gentlemen:

I am going camping in the state forest this summer and I want information quickly. You have no right to charge campers for using public property, but if there are any fees or special requirements, let me know all about them.

I want all pamphlets and folders you may have. My vacation starts shortly, and I expect a swift reply.

Yours truly,

Herbert Gordon

QUESTIONS:
1. Check the letter against the above three rules. List the rules, if any, which the writer disobeys.
2. On a standard sheet of typing paper rewrite the letter so that it complies with the rules.

BEST COPY AVAILABLE

CORRESPONDENCE - Auto. Mech.
LETTER OF REQUEST

Job Sheet #3

OBJECTIVE: To write three letters of request.

MATERIALS:
1. Standard-size typing paper.
2. Pen

INFORMATION:
1. Be courteous. Make use of such words as please, appreciate, grateful.
2. State the request briefly but clearly.
3. Be sure that the request is not excessive or unjust. This check is particularly necessary when you send letters asking for pamphlets and the like.

PROCEDURE: Write letters of request as follows:

1. To: American Motors
   Requesting: Information available to schools conducting mechanics training courses, furnished by American Motors.
2. To: General Motors Training Center, Tigard, Oregon
   Requesting: Possible visitation by students from the mechanics classes at West Linn High School.
3. To: Mr. Paul Koch, Volkswagen Dealer, Milwaukie, Oregon
   Requesting: Those things he believes most beneficial in training students to enter the automotive mechanics field in this area.

BEST COPY AVAILABLE

CORRESPONDENCE - Draft.
LETTER OF REQUEST

Job Sheet #3

OBJECTIVE: To write three letters of request

MATERIALS: Information packet on business letters
Standard-size typing paper
Pen

INFORMATION:
1. Be courteous. Make use of such words as please, appreciate, grateful.
2. State the request briefly but clearly.
3. Be sure that the request is not excessive or unjust. This check is particularly necessary when you send letters asking for pamphlets and the like.

PROCEDURE:
1. Read the information packet on business letters.
2. Write letters of request as follows.
3. Obtain the addresses of the companies.
    - a. To: Post Company
      Requesting: A complete specification and price quotation for drafting instuments you would want to use (list below).
    - b. To: Any drafting and engineering company
      Requesting: Guided tour for thirty persons
    - c. To: Any engineering and drafting service company
      Requesting: Consultant or technician to give lecture to the class

BEST COPY AVAILABLE

CORRESPONDENCE - Elec.
LETTER OF REQUEST

Job Sheet #3

OBJECTIVE: To write three letters of request

MATERIALS: Standard-size typing paper
Pen
Information packet on business letters

INFORMATION:
1. Be courteous. Make use of such words as please, appreciate, grateful.
2. State the request briefly but clearly.
3. Be sure that the request is not excessive or unjust. This check is particularly necessary when you send letters asking for pamphlets and the like.

PROCEDURE:
1. Read the information packet on business letters.
2. Find the addresses of the companies specified.
3. Write letters of request as follows:

    a. To: United Radio Supply in Portland, Oregon
    Requesting: Their catalog
    b. To: Allied
    Requesting: Their catalog
    c. To: Lafayette
    Requesting: Their catalog

BEST COPY AVAILABLE

Job Sheet #3

OBJECTIVE: To write three letters of request

MATERIALS: Information packet on business letters
Standard-size typing paper
Pen

INFORMATION:
1. Be courteous. Make use of such words as please, appreciate, grateful.
2. State the request briefly but clearly.
3. Be sure that the request is not excessive or unjust. This check is particularly necessary when you send letters asking for pamphlets and the like.

PROCEDURE:
1. Read the information packet on business letters.
2. Obtain the addresses of the following companies or schools.
3. Write letters of request as follows:
   a. To: Tektronix, Inc.
      Requesting: A tour for your metals class. (Remember the group will be mostly interested in the area of the plant pertaining to the metals trade.)
   b. To: Machinist Local 63
      Requesting: Information and requirements for apprenticeship training.
   c. To: Clackamas Community College
      Requesting: Information available for vocational curriculum, requirements, and tuition costs.

CORRESPONDENCE - Auto. Mech.
Draft.
Elec.
Met. Sh.

ORDER LETTER

Job Sheet #4

OBJECTIVE: To study a model of an order letter

MATERIALS: From file obtain a sample order letter.
Pen

INFORMATION: Standards for writing a good order letter

a. Be sure that your address is written correctly in the heading of your letter. Many times large companies receive letters with money enclosed, but with the wrong address or with no address to which to send the article. Angry letters follow because the article has not been received, but the fault lies with the sender.

b. All important details, such as size, color, type, etc., should be included. One person, in sending an order, asked for a pair of brown leather shoes, style 3811, price $9.75. Since he had omitted the size, time was lost on both sides.

c. Mention if possible where you saw the article advertised. If ordering from a catalog, mention the year or edition. Be sure that you have understood the original description of the article.

d. Enclose the correct amount of money in the form of a money order or check, or state that the merchandise is to be charged or sent C.O.D.

e. Include information as to how and when you want the article shipped.

f. Remember that business form should be used throughout. Make your order letter businesslike.

PROCEDURE:

1. Read and study the letter.
2. Answer the following questions:
   a. What important information does the writer of the letter include?
   b. What sentence could be omitted from the letter without eliminating any necessary detail?
   c. What errors may be made by persons ordering merchandise by mail?
      1.
      2.
      3.
      4.
      5.

292

Job Sheet #5

OBJECTIVE: To write three order letters.

MATERIALS: Standard-size typing paper
Pen

INFORMATION: Refer to standards for writing a good order letter, Correspondence Job Sheet #4

PROCEDURE: Write order letters as follows:

a. To: Mr. Harold Smith
Industrial Sales
Snap-On Tool Co.
Route 1, Box 94D
Clackamas, Oregon

Ordering the following:

An automotive tool catalog with price sheet

b. To: Clackamas Auto Parts
Oregon City, Oregon

Ordering the following:

Parts for a 1965 Chevrolet 6-cylinder

1. Cylinder head
2. Six intake valves
3. Six exhaust valves
4. Camshaft bearings
5. Six pistons .040 oversize
6. One set, piston rings .040 oversize
7. Oil pressure switch

c. To: Lake Auto Parts
Lake Oswego, Oregon

Ordering the following:

1. Vibration damper for 1963 - 409 engine.
2. Differential carrier assembly for a Ford Fairlane, 1963 model
3. Master cylinder repair kit for 1964 Fairlane with power brakes
4. Front bearing cone, 1962 Plymouth sure-grip differential
5. Friction ring set, 1960 six Rambler synchro-mesh transmission

Job Sheet #5

OBJECTIVE: To write three order letters

MATERIALS:
Information packet on business letters
Standard size typing paper
Pen

INFORMATION: Refer to standards for writing a good order letter, Correspondence Job Sheet #4.

PROCEDURE:

1. Read the information packet on business letters.
2. Write order letters as follows:

a. To: Keuffel and Esser Co.
2674 Folsom Street
San Francisco, California 94110

Ordering the following:

1. Blueprinting machine
2. Lettering pens
3. Xerox machine

(Specify catalog number, sizes, etc. for each.)

b. To: Dietzgen Company
Ordering the following:

1. Complete drawing instruments for twenty draftsmen.

(Specify catalog numbers and prices.)

c. To: Brodhead Garrett
161 Commerce Circle
Sacramento, California 94815
Ordering the following:

1. Complete drafting furniture. Include correct specifications.

Job Sheet #5

OBJECTIVE: To write three order letters

MATERIALS: Information packet on business letters
Standard size typing paper
Pen

INFORMATION: Refer to standards for writing a good order letter, Correspondence Job Sheet #4.

PROCEDURE:

1. Obtain the addresses of the following companies.
2. Write order letters as follows:
   - a. To: United Radio Supply Inc.
     Ordering the following:
     1. 5 AG mounting with screw terminals, type f, 4-pole.
     2. Eveready continuity checker
     3. Mueller alligator clips, conventional type, lots of 10
     4. Merit antenna matching transformers, impedance ratio 72/300
   - b. To: United Radio
     Ordering the following:
     1. D.C. Amp meter, range 0-50 amps, 3½ inch case.
     2. CRT rejuvenator and checker, B & K
     3. Capacitor analyst, B & K
   - c. To: Radio Shack
     Ordering the following:
     1. Molded audio cable phonoplug to alligator clip
     2. Electronic project kits, "super snooper kit"
     3. Walkie-talkie, 3-watt, 3-channel
     4. Stereo headset, NORA Pro
     5. Mobile CB transceiver, Mini-six

CORRESPONDENCE - M
ORDER LETTER

Job Sheet #5

OBJECTIVE: To write three order letters.

MATERIALS:
Information packet on business letters
Standard size typing paper
Pen

INFORMATION: Refer to standards for writing a good order letter, Corres
Job Sheet #4.

PROCEDURE:
1. Read information packet on business letters.
2. Obtain the addresses of the following companies.
3. Write order letters as follows:

   a. To: South Bend
   Ordering the following:

   Replacement parts for horizontal drive headstock
   List in three evenly spaced columns: A. item n
   B. part n
   C. part n

   b. To: Clausing
   Ordering the following:
   Replacement parts for 10" lathe tailstock, all p
   331-006, tailstock housing.
   List in three evenly spaced columns: A. part n
   B. part n

   c. To: Tucker & Sons
   Ordering the following:

   1. 6 pairs of 8-inch pliers, combination
   2. 48 12-inch mill smooth files
   3. 72 12-inch round second cut
   4. 96 taper, extra slim
   5. Precision square number 541, 24 blade inches,
   6. Live center No Morse Taper
   7. Adjustable wrench, 8-inch chrome plated

Job Sheet #5

OBJECTIVE: To write three order letters

MATERIALS: Information packet on business letters
Standard size typing paper
Pen

INFORMATION: Refer to standards for writing a good order letter, Correspondence Job Sheet #4.

PROCEDURE:

1. Obtain the addresses of the following companies.
2. Write order letters as follows:
   a. To: United Radio Supply Inc.
   Ordering the following:
      1. 5 AG mounting with screw terminals, type f, 4-pole.
      2. Eveready continuity checker
      3. Mueller alligator clips, conventional type, lots of 10
      4. Merit antenna matching transformers, impedance ratio 72/300

   b. To: United Radio
   Ordering the following:
      1. D.C. Amp meter, range 0-50 amps, 3½ inch case.
      2. CRT rejuvenator and checker, B & K
      3. Capacitor analyst, B & K

   c. To: Radio Shack
   Ordering the following:
      1. Molded audio cable phonoplug to alligator clip
      2. Electronic project kits, "super snooper kit"
      3. Walkie-talkie, 3-watt, 3-channel
      4. Stereo headset, NORA Pro
      5. Mobile CB transceiver, Mini-six

CORRESPONDENCE - Met. Sh.
ORDER LETTER

Job Sheet #5

OBJECTIVE: To write three order letters.

MATERIALS:
Information packet on business letters
Standard size typing paper
Pen

INFORMATION: Refer to standards for writing a good order letter, Correspondence Job Sheet #4.

PROCEDURE:

1. Read information packet on business letters.
2. Obtain the addresses of the following companies.
3. Write order letters as follows:

   a. To: South Bend
   Ordering the following:

   Replacement parts for horizontal drive headstock 10K (Model A)
   List in three evenly spaced columns:
   A. item number
   B. part number
   C. part name

   b. To: Clausing
   Ordering the following:
   Replacement parts for 10" lathe tailstock, all parts except 331-006, tailstock housing.
   List in three evenly spaced columns:
   A. part number
   B. part name

   c. To: Tucker & Sons
   Ordering the following:

   1. 6 pairs of 8-inch pliers, combination
   2. 48 12-inch mill smooth files
   3. 72 12-inch round second cut
   4. 96 taper, extra slim
   5. Precision square number 541, 24 blade inches, 13 1/8 beam in.
   6. Live center No Morse Taper
   7. Adjustable wrench, 8-inch chrome plated

CORRESPONDENCE - Auto Mech.
Draft.
Elec.
Met. Sh.

CLAIM LETTER

Job Sheet #6

OBJECTIVE: To examine a sample claim letter and to evaluate it according to standards for writing any claim letter.

MATERIALS: The following claim letter and two additional claim letters from the file. Pen

INFORMATION:

1. Be courteous. Assume the good will of the store or agency you are writing to.
2. Explain your claim justly and accurately. Have proof of your statement. Don't exaggerate. An inaccuracy is soon discovered, thus spoiling a legitimate complaint.
3. Request adjustment.

Since errors will be made by human beings and since merchandise will get broken in delivery, we should learn to write a sensible, intelligent letter requesting adjustment, not an angry, threatening letter that makes enemies.

PROCEDURE:

1. Read the following letter.
2. Answer the questions at the end of the sheet.

12 Maple Drive
Palenville, New York
April 20, 1970

Kennedy Bookestores, Inc.
2 Pershing Square
New York, New York

Gentlemen:

I received in this morning's mail a package of books on radio. Unfortunately, one of these was not the book I ordered. Instead of The Amateur Radio Technician, you sent The Radio Amateur's Reference Book.

Since my interest is not advance, I prefer the less technical book first mentioned. I am returning the Reference Book. Will you send the other to me as soon as you can?

Very truly yours,

Elwood Otis

QUESTIONS:

1. Was the tone of the above letter courteous, bitter, discourteous?
2. Was all essential information given? Support your opinion.
3. How did the writer ask for an adjustment?
4. What temptation should be resisted in all claim letters?
5. Will an angry letter be less likely to bring quick adjustment of your claim? Why?

CORRESPONDENCE - Auto. Mech.
Draft.
Elec.
Met. Sh.

CLAIM LETTER

Job Sheet #7

OBJECTIVE: To evaluate two claim letters.

MATERIALS:
1. The following sample claim letters
2. Pen

INFORMATION: Criteria for a good claim letter:

a. Be courteous. Assume the doog will of the store or agency you are writing to.
b. Explain your claim justly and accurately. Have proof of your statement. Don't exaggerate. An inaccuracy is soon discovered, thus spoiling a legitimate complaint.
c. Request adjustment.

PROCEDURE:
1. Read the following letters carefully.
2. Evaluate them according to the criteria for a good claim letter.
3. Answer the questions at the end of the sheet.

SAMPLE CLAIM LETTERS

17 Appleton Road
Concord, New Hampshire 37212
April 23, 1970

The Brown Store
37 Main Street
Concord, New Hampshire 37212

Gentlemen:

I cannot understand how a store of your size and supposed efficiency can be so inefficient in sending out orders. Yesterday at your store I ordered from a salesclerk a suitcase of yellow leather. I specifically mentioned yellow.

Today when your truck came and left the suitcase I found that you had sent out a brown one. You are putting me to considerable trouble writing this letter. It is trouble that could have been avoided if you had lived up to your name of efficiency. I shall expect to see your truck here tomorrow with a new yellow bag.

Yours truly,

Agatha Munsen

* * *

BEST COPY AVAILABLE

Job Sheet #7 (cont.)

22 Greene Court
San Francisco, California 65231
June 15, 1970

A.T. Talbot and Company
47 Viburnum Avenue
San Francisco, California 65231

Gentlemen:

Yesterday I received by delivery truck a wooden filing cabinet ordered from you a week ago. When I uncrated the cabinet, I found the middle file to be defective. The base of this drawer is split, and one side is completely splintered.

I don't know whether the damage occurred in transit or at the factory, but since the drawer is not usable, I should like to have it exchanged. Since the rest of the cabinet is in good condition, it will be necessary to replace only the drawer. Will you send your truck with a replacement as soon as possible? I shall greatly appreciate your prompt action.

Yours truly,

Martha Jensen (Mrs.)

QUESTIONS:
1. Which of the two letters is the more courteous?
2. Which will receive the best service in the matter of adjustment?
3. Point out weak spots in the discourteous letter.

CORRESPONDENCE - Auto-Mech.
CLAIM LETTER

Job Sheet #8

OBJECTIVE: To write three claim letters

MATERIALS:
Information packet on business letters
Standard size typing paper
Pen

INFORMATION: Criteria for a good claim letter:

1. Be courteous. Assume the good will of the store or agency you are writing to.
2. Explain your claim justly and accurately. Have proof of your statement. Don't exaggerate. An inaccuracy is soon discovered, thus spoiling a legitimate complaint.
3. Request adjustment.

PROCEDURE:

1. Read the information packet on business letters.
2. Obtain addresses for the following companies.
3. Write claim letters as follows:
   a. To: Oregon Auto Insurance Co.
   Claim adjustment as follows:

      A reported accident to the company on January 1, 1970, was successfully handled and prompt attention was much appreciated.

   b. To: Sun Electric Corporation
   Claim Adjustment as follows:

      Have had unsatisfactory performance and excessive repair cost on a sun test equipment number 1020.

   c. To: Postmaster, West Linn
   Claim adjustment as follows:

      Letter requesting follow-up or investigation of correspondence not received from General Motors Corporation, Detroit, Michigan. Your personal contact with the company reveals correspondence was sent June 1, 1970.

CORRESPONDENCE - Elec.
CLAIM LETTER

Job Sheet #3

OBJECTIVE: To write three claim letters

MATERIALS: Standard size typing paper.
Pen.

INFORMATION: Criteria for a good claim letter:

A. Be courteous. Assume the good will of the store or agency you are writing to.
B. Explain your claim justly and accurately. Have proof of your statement. Don't exaggerate. An inaccuracy is soon discovered, thus spoiling a legitimate complaint.
C. Request adjustment.

PROCEDURE:

1. Obtain the addresses of the following companies.
2. Write claim letters as follows:

   A. To: EICO Company
   Claim adjustment as follows:
   VTVM broken on arrival from the company

   B. To: Hickok Teaching Systems, Inc.
   Claim adjustment as follows:
   Digital counter, volt meter Mac-735, has broken and there was a one-year warranty on it.

   C. To: Heath Kit Company
   Claim adjustment as follows:
   An oscilloscope you ordered was damaged enroute.

CORRESPONDENCE - Draft.
ORDER FORMS

Job Sheet #[illegible]

OBJECTIVE: To practice filling out order forms accurately and completely

MATERIALS: A list of items to be ordered. See below.
Catalog(s) from which to obtain the information necessary to order the correct item.
Order forms. Obtain from file.

PROCEDURE:

1. Locate all items in list below in each of the four catalogs.
2. Make a note of order number, price, size, description, etc. of each item.
3. Obtain order blanks from file.
4. Fill in legibly and accurately all the information necessary to order the exact items you want. Order all the items four times—once from each of the four companies.
5. Turn in your four order blanks to teacher.

LIST OF ITEMS:

1. T-Square - 24 inch
2. Architect's Scale - 12 inch
3. Engineer's Scale - 12 inch
4. 30° by 60° Triangle - 12 inch
5. 45° by 90° Triangle - 12 inch
6. Pencil pointer with sandpaper
7. Erasing shield
8. Semi-circular protractor, .090 thick
9. Beam compass (complete set)
10. Drawing board - 18 inch by 24 inch
11. Drawing ink - 3/4 ounce
12. Dusting brush - 15½ inches long
13. Drafting tape - ½ inch by 60 yards
14. Drawing pencils - one dozen

CATALOG OR COMPANY:

1. Post School Drafting Supplies, 1969, or Drafting Art: Buying Guide, 1968.
2. Modern School Supplies.
3. Tacro, Division of A & T Importers, Inc.
4. Dietzgen Drafting Equipment and Supply Company

Job Sheet #9

OBJECTIVE: To practice filling out order forms accurately and completely.

MATERIALS: A list of items to be ordered. See below
Catalog(s) from which to obtain the information necessary to order the correct item
Order forms. Obtain from file.

PROCEDURE:

1. Locate items in each list below in appropriate catalog(s).
2. Make a note of order or catalog number, price, size, description, etc. of each item.
3. Obtain order blanks from file.
4. Fill in legibly and accurately all the information necessary to order the exact item you want.
5. Turn in your order blanks to teacher.

LISTS OF ITEMS:

1. Catalog or company: Graymark Enterprises Inc.

   2 - 510 five-tube radio projects
   1 - 517 Mini-wink project
   20 - 301 A crystal diodes
   1 - 307 AE capacitor set, 50 in package
   1 - 321 C rear seat speaker
   4 - 337 transformers

2. Catalog or company: Radio Shack catalog 191

   3 Bantamweight "B" batteries, 15 volts
   1 expert dual-heat soldering gun
   1 CTR-5 compact pushbutton recorder
   1 diamond needle - Ronette - DC-04
   ¼ lb. assorted solderless lugs

3. Catalog or company: Burstein-Applebee (BA) catalog #711

   10 Workman AMP fuses - 3 kelly green, 1 yellow, 1 maroon, 1 pink, 2 red, 2 black.
   1 in-circuit capacitor tester - a kit
   1 omnidirectional dynamic microphone, HK-112
   1 mobile ham antenna - super hustler resonator - 22-27 inches, total length

Job Sheet #9

OBJECTIVE: To practice filling out order forms accurately and completely.

MATERIALS: A list of items to be ordered. See below.
Catalogs from which to obtain the information necessary to order the correct item
Order forms. Obtain from file.

PROCEDURE:

1. Locate items in each list below in appropriate catalog.
2. Make a note of order number, price, size, description, etc. of each item.
3. Obtain order from blanks from file.
4. Fill in legibly and accurately all the information necessary to order the exact item you want.
5. Turn in your order blanks to the teacher.
6. Return catalogs to the bookshelf.

LIST OF ITEMS:

1. Tucker & Sons Catalog

Cat. No.	Item
	12 Industrial counter brushes (9")
	12 File cards with pick and brush
20T	2 Hacksaw frames
10-R	4 Vise-grip wrenches
10-S	1 Hex keys kit
154-106	1 Small hole gauge
LCI-2M	6 Live centers
200	6 Single pick-up tongs
204	6 Flat jaw gad tongs

2. Midwest Shop Supplies Catalog

Cat. No.	Item
459	1 Jacobs commutator chuck kit
AC .39	1 Center post 10" lathe
697	1 Bench grind
90063	1 3/8" Industrial drill
50-100	12 Weld-Master welding helmets
Model A7	1 Metal cutting band saw

3. Brodhead-Garrett Catalog

Cat. No.	Item
183	6 Steel protractors
209	6 thickness gauge 9 leaves
55	12 Super junior clamps, 3" opening
685	4½ Dio two helical flutes, single end 1½ M.H. Dia. 3/8" shark dio, 12/16" length
493	6 Protractor and depth gauge
391	4 Center gauge
277	6 Dividers 6"
676 CF	12 Stiff stainless steel rules

CORRESPONDENCE SKILLS - Metal Sh.
NOTE WRITING

Job Sheet #5

OBJECTIVE: To develop skills in communicating through brief, clear, and precise note writing.

In the machinist trade note writing is most necessary when oral communication isn't possible. For example, a machinist on swing shift (4 to midnight) leaves a job for a day machinist (8 a.m.-4 p.m.) to finish.

Information on what has been done and what is yet to be done must be accurate, neat, and precise. A misunderstanding may result in a spoiled job.

PROBLEM: You are working swing shift (4 to midnight). Your job is not completed, and the day shift will have to finish it. You must write a note giving all the necessary information on what you have completed and what is left to finish.

JOB: You are given three 1" x 3" x 20' lengths of bar shook.

Operations:

a. Saw 1" x 3" x 3" pieces (see sketch) 200 quantity).
b. Deburr all sharp edges with a file.
c. Drill ½" dia. hole approx. center of 3" x 3" surface.
d. File and polish 2 sides. See sketch.

You have completed on your shift:

a. Sawing 200 pieces.
b. You have drilled 100.
c. You have filed 2 sides on 25.

Note #1 - In a note explain to the day shift man what needs to be done to finish the job.

Note #2 - In another note explain what you completed.
(remember to be as brief as possible and yet understandable in your message.)

FINDING & GETTING A JOB - Auto. Mech.
Draft.
Elec.
Met. Sh.

JOB SURVEY SHEET

Job Sheet #1

OBJECTIVE: To find out what you know about the world of work

MATERIALS: This job sheet
The answer key in the file

PROCEDURE:
1. This job sheet is organized so that the questions will test how carefully you have read the material. All information is to be found in this job sheet.
2. Read carefully, then answer the questions.
3. Obtain the answer key from the file and correct your own work.
4. Indicate the number wrong on top of the job sheet.
5. Hand in when completed and corrected.

EXPLORING THE WORLD OF WORK

The song tells us that, "It's a big, wide, wonderful world we live." Let's find out more about it. What jobs are available in this wonderful world? Before selecting your career, learn something about the world of work. Know what occupations are available. Find out about these different jobs. Answer the following to determine how much you know about occupations.

1. Because it is impossible to look at the thousands of different jobs, we shall look at major job groups. Sometimes they are called occupational families. As in a human family, all jobs in the group are related in some way. That is, all jobs in the group

   ________________ are alike
   ________________ have some features in common
   ________________ both
   ________________ neither

2. Industry employs all kinds of workers. There are those without skills. They are called:

   ________________ industrial help
   ________________ unskilled workers
   ________________ both
   ________________ neither

3. Usually unskilled workers are laborers. They may work inside or outside. Their work may involve heavy physical labor, or it may consist of light work indoors. Which of these might a laborer or unskilled worker do?

Job Sheet #1

_______________ shoveling

_______________ digging

_______________ hauling

_______________ all of the above

Your first job may be in the unskilled group. With occupational planning, you can advance. The next group in our occupational family is the semiskilled worker.

4. With training, many unskilled workers move up to SEMISKILLED JOBS. Semiskilled workers work with their hands. Their work is usually routine. It calls for a limited amount of training. Often this is in the form of on-the-job training. They are given brief instructions and told exactly what to do. Under supervision they go through the same motions over and over. The requirements for unskilled and semiskilled workers are different because:

_______________ unskilled workers need little or no education and training.

_______________ semiskilled workers need a limited amount of on-the-job training.

_______________ both

_______________ neither

5. Semiskilled workers hold jobs in almost every major industry. The majority of these workers are found in the manufacturing industries. Other workers in this class are truck, bus, and taxi drivers. George drives a long-distance moving van for a large moving company. George should be classified as a(n):

_______________ unskilled worker

_______________ skilled worker

_______________ both

_______________ neither

6. There will be thousands of job opportunities in the semiskilled occupations during the 1970's. There will be greater need for workers, however, in the skilled and technical fields. Spend a bit more time and effort. Get training beyond the semiskilled stage. Advance to the next level as a _________ worker.

7. SKILLED workers are craftsmen who earn a living by making things with their hands. Many are employed in the mechanical and building trades. All of our tall buildings, machines, dams and bridges were built by the efforts of various __________ craftsmen.

_______________ unskilled

_______________ semiskilled

_______________ both

_______________ neither

Job Sheet #1

8. When you are a skilled worker, you'll have greater job secu
There'll be better chances for advancement. You may become
self-employed. Your wages will be higher than those of the
semiskilled and unskilled. Name two advantages of being a
skilled rather than an unskilled worker.

1. ______________________________
2. ______________________________

9. There are good opportunities for skilled workers in every c
of the fifty states. The general employment outlook in the
skilled occupations is very favorable. The greatest opport
are in the large industrial states. Examples are New York,
California, Pennsylvania, Illinois, Ohio and Michigan.

_______________ any of the states.
_______________ only in the large industrial states.
_______________ only in New York, California, and Oh

10. A large number of craftsmen belong to smaller groups. Amon
these are bakers who produce products such as bread, cakes,
and pies. Jewelers are skilled workers. They make and rep
jewelry of all sorts. Tailors also are skilled workmen. T
do hand and machine sewing in making clothes. Each of thes
craftsmen uses his hands to make things. It is most import
that the skilled worker have:

_______________ verbal skills
_______________ a good personality
_______________ both
_______________ neither

11. Name three families of workers that have been discussed so

(1) ______________________________
(2) ______________________________
(3) ______________________________

12. Complete these sentences.

Unskilled work offers (few, many) ________ chances for adva
Semiskilled workers work at (routine tasks/ new and differ
tasks) ______________________________________ each day.
There will be more need in the future for

_______________ unskilled workers
_______________ skilled workers
_______________ both
_______________ neither

Job Sheet #1

13. Match the following jobs with the job family.

a. _______ digging a ditch — 1. skilled
b. _______ driving a truck — 2. semiskilled
c. _______ making a suit of clothes — 3. unskilled
d. _______ welding a fender

14. Those who work in the service occupations are grouped together because they all serve the public in some way. The services which they provide vary. Therefore, the amount and kind of training required varies. One thing which all workers in service occupations have in common is:

_______ serving the public.
_______ different qualifications.
_______ same job title.

15. Depending upon where and how they serve, those who work in service occupations may be divided into four groups. These are (1) domestic service workers, 920 protective service workers, (3) personal service workers, and (4) business and industrial service workers. The largest group in the service occupations is the domestic service workers.

(1) ______________________________
(2) ______________________________
(3) ______________________________

16. Over 750,000 civilian workers are responsible for the protection of public life and property. These are the protective service workers. If you would like to enter this field of work, there are strict personal and physical requirements. The educational requirements vary with the specific position. Protective service workers:

_______ protect public property and lives.
_______ protect personal and physical property
_______ both
_______ neither

17. There are three large subgroups of protective service workers. The largest of these is guards and watchmen. The second largest is made up of policemen and detectives. Firemen are in the third subgroup. These three subgroups make up more than 90% of all protective service workers.

18. Industry spends over one billion dollars a year for workers to look after its property and trade secrets. This work is done by:

Job Sheet #1

________firemen

________guards and watchmen

________both

________neither

19. Not much special training is required if you want to be a watchman or a guard. Most police departments require that applicants be able to pass certain examinations. You must meet certain physical, mental, and educational requirements. From the advertisement below, list one mental, one physical, and one educational requirement.

POLICEMEN WANTED

Starting salary $9,010
1. Age 21-29 years
2. Min. height 5'8"
3. Min. weight 145 lb.
4. U.S. citizen
5. Pass written test
6. 20/20 vision corrected
7. Physically fit
8. Good moral character
9. H.S. diploma/ or G.E.D. or prior experience

(1) Mental requirement ________

(2) Physical requirement ________

(3) Educational requirement ______

20. The third group under the heading of service occupations is the personal service workers. These workers do something personal for the people for whom they work. Which one of these workers is a personal service worker?

________ a barber

________ a taxi driver

21. The remaining group of service workers are engaged in the business and industrial service occupations. Among these workers are bellboys, busboys, cooks and chefs, elevator operators, and janitors. Which one of the following workers does not belong with this group?

________ a bellboy

________ a hatcheck girl

________ a chef

________ a policeman

22. As a rule, clerical workers work in clean, well-ventilated offices. Their clothing at the end of the day is as clean as it was when they went to work in the morning. Many of the men wear white shirts. This group of workers has come to be known as "white-collar"

workers. The skilled and semiskilled workers are often called blue-collar workers. If you want to look nice on the job you would like being a:

________ white-collar worker

________ blue-collar worker

________ both

________ neither

23. Clerical workers should have a high school education. Some training in business courses is needed. If you're good in arithmetic, spelling, and grammar, so much the better. Knowing how to operate some of the different office machines will help you get a job. Planning to be a clerical worker? You must have:

________ a good basic education

________ a degree from a business college

________ both

________ neither

24. Salespeople require less training than most other white-collar workers. Is your appearance clean and neat? Do you speak well? Can you persuade customers to buy what you are selling? If your answer is "yes" to these questions, you:

________ will not need a great deal of training

________ will find that the field of selling offers many different opportunities

________ both

________ neither

25. The farm worker is being replaced by machinery. By 1975, only one out of every ten youths will be able to get a good job in farm production work. Farmers are using more modern methods. The student who plans to go into farm work must:

________ know how to run the equipment used on a modern farm.

________ choose from many farm jobs.

________ both

________ neither

26. Many of the occupations in the technical, managerial, and professional groups call for a college degree. There are some exceptions. See if you are interested in these exceptions.

Job Sheet #1

27. There are two basic types of professions: (1) Those which require a great deal of formal education. Doctors, lawyers, and teachers are examples of this type. (2) Those which do not call for as much knowledge. They require creative talent and skill. Examples of such workers are actors, athletes, artists or musicians. Which of the following would require a college education?

________ doctor

________ artist

28. Match the following Job Titles with the name of the Job Family to which each belongs:

Job Titles	Job Families
_____ Carpenter	1. Unskilled workers
_____ Ditchdigger	2. Semiskilled workers
_____ Teacher	3. Skilled workers
_____ Farmer	4. Service workers
_____ Salesman	5. Clerical workers
_____ Typist	6. Sales workers
_____ Waiter	7. Professional workers
_____ Fireman	8. Farm workers
_____ Bus Driver	

29. In January, 1966, less than 4 percent of all people looking for work were unemployed. This is the lowest rate of unemployment in 9 years. A report from Washington, D.C. says that the number of unemployed will continue to drop. What does this mean to you? Soon you will enter the labor market. If you are capable, your chances of finding a job are:

________ good and getting better ________ - both

________ good right now but expected to get worse ________ neither

30. The job picture for the youth of today is bright. But you must be prepared. Learn a skill which employers need. Get a good basic education. Education and training are the keys to a better life. You can have your chance to earn good wages, have steady employment and be happy in your work. You are now at the crossroad. START NOW IN THE RIGHT DIRECTION!

FINDING & GETTING A JOB - Auto. Mech.
Draft.
Elec.
Met. Sh.

JOB EXPLORATION

Job Sheet #2
(Each student will do three of these)

OBJECTIVE: To obtain specific information about a specific vocational area.

MATERIALS: Vocational Area Bibliography
Available materials in library and study center: books, pamphlets, tapes, filmstrips and tapes, filmstrips and records

PROCEDURE:
1. Go to the file and obtain the Vocational Area Bibliography.
2. Decide on one job area that you wish to investigate.
3. Note where the materials you want are located and obtain a hall pass.
4. Research the job area thoroughly; sometimes it will be necessary to go to more than one source for all the information you want.
5. INSTRUCTIONS FOR THE LIBRARY:
    - a. From the reserve shelf choose several books that deal with the vocational area you are investigating.
    - b. Read the questions below.
    - c. Overview each of the books or pamphlets you have chosen; decide on those which will best give you the information you want. Return those you are not going to use to the desk.
    - d. Using the index and table of contents, preview chapters in the books or pamphlets that look like they might give you the information you need.
    - e. Once you have found the exact information you are looking for, read the material carefully and answer the questions below.
    - f. Return all books to the reserve desk.
6. INSTRUCTIONS FOR THE STUDY CENTER:
    - a. If you want printed material ask the secretary to direct you to the Vocational Pamphlet file and other pamphlets which are available.
    - b. If you wish to view a filmstrip ask the secretary to help you find the one of your choice and assist you in setting up the filmstrip projector and record player or cassette.
    - c. Read the questions below before you start viewing the film strip.
    - d. View the filmstrip and record your answers. (Note: Sometimes it might be helpful to view the filmstrip more than once. The first time to get the general overview; the second time to obtain specific information.
    - e. Return all materials to the secretary.

QUESTIONS:
1. Choose one specific job to investigate thoroughly and answer the following questions:
    - a. Give the title of the specific job:
    - b. List all possible places of employment. (Example: private industry, county, state or federal agencies, self-employment, etc.)

Job Sheet #2

c. Does the job involve:
   (1) Working with people and/or animals? Yes No
   (2) Working with concepts and ideas? Yes No
   (3) Working with machines and objects? Yes No

d. What are the educational requirements for this job? List all.

e. What special qualifications are necessary for this job? (Mental abilities, physical abilities, special skills, etc.)

f. Find the following information about earnings:
   (1) Expected beginning salary. By the hour? ______
   Per year? ______
   (2) What is the possible maximum salary? By the hour? ______
   Per year? ______

g. How many hours per week would you expect to work in this job?

h. Are there any health hazards involved in this job? ________
If so, what are they?

i. Is the competition for this job
____ None ____ Very little ____ Increasing
____ Very great In other words, how crowded is this vocational area?

j. List the possibilities for advancement in terms of
   (1) Responsibilities -
   (2) Wages or salary-

k. What, if any, are the seasonal variations which affect this job?

l. What are the fringe benefits to this job?

m. What you have learned about this specific vocational area? State your personal feelings about it as a future vocation for yourself. List the pros and cons.

WORK PERMIT

Job Sheet #3

OBJECTIVE: To learn how to obtain a work permit

MATERIALS: Obtain from the file an application form for a work permit. Information packet on work permits. ("The Work Permit, Your Job and the Bureau of Labor")

PROCEDURE:

1. Read the brochure "The Work Permit . , , Your Job . . . And the Bureau of Labor."
2. If you already have your work permit, you have completed this job sheet. Hand it in.
3. If you do not have a work permit, obtain an application from the file, and fill it out accurately and legibly.
4. Show the completed form, together with this job sheet, tc your instructor for an OK.
5. NOTE: If you do not have a copy of your birth certificate, write a letter requesting one. You will find the address in the file.
6. Obtain an envelope from the instructor and mail your application for your work permit.

SOCIAL SECURITY NUMBER

Job Sheet #4

OBJECTIVE: To learn how to obtain a Social Security Number.

MATERIALS: Obtain from the file an application blank for a Social Security Number.

INFORMATION:

Before you can hold a job, you must get a Social Security card. What is Social Security?

When you work, you must pay about five cents out of every dollar to the government. Your employer takes this money out of your pay check. He also pays the government about five cents for every dollar you earn. So for every dollar you earn, about ten cents goes to the government. The government uses this money to help you in several ways.

1. When you retire from work, you get money to live on. The age of retirement for women is 62. For men, it is 65.
2. If a man dies before his wife, she gets money to live on.
3. Suppose you get sick or hurt while working. You get money until you are well enough to work again.
4. After you are 65, part of your doctor bills are paid for. This is called Medicare.

It is easy to get a Social Security card. Obtain an application form for a Social Security number. After you fill it in, mail it to the Social Security office nearest you. This address can be obtained from the phone book. You then will be sent a Social Security card with your number on it. This will be your number for the rest of your life. If you lose your card, you can get another one. But it's a good idea to keep your card in a safe place. Carry it only when you go for a job.

PROCEDURE:

1. Read the above INFORMATION section.
2. If you have your Social Security number, write it and your name in the spaces below.
3. You have completed this job sheet. Hand it in.
4. If you do not have your Social Security number, obtain a form from the file and fill it out accurately and legibly.
5. Show the completed form together with this job sheet to your instructor for an OK.
6. Obtain an envelope from the instructor and mail the application to the Social Security office nearest you.

NAME ______________________________

SOCIAL SECURITY# __________________

LETTER OF APPLICATION

Job Sheet #5

(NOTE: THIS JOB SHEET IS TO DONE AFTER COMPLETING CHAPTER 4 IN THE TEXT AND BEFORE BEGINNING CHAPTER 5.)

OBJECTIVE: To examine two sample letters of application to find out the information a good letter of application should contain.

MATERIAL: Sheet entitled "In the Boss's Shoes"

PROCEDURE:

1. Do this job sheet before you begin Chapter 5 in your text, "How to Write a Letter of Application".
2. Obtain the sheet "In the Boss's Shoes" from the file.
3. Read carefully the sample letters of application.
4. Answer the questions according to the directions.
5. Hand in the completed job sheet.
6. Begin Chapter 5 in your text.

APPLICATION FORMS

Job Sheet #6

(NOTE: EACH STUDENT MUST DO THREE OF THESE AFTER COMPLETING CHAPTER 6 IN THE TEXT.)

OBJECTIVE: To practice completing job application forms with accuracy and legibility.

MATERIALS: In the file are application forms from the following companies:

1. Fred Meyer
2. Pendleton Woolen Mills
3. Tektronix
4. Pacific Northwest Bell
5. Crown Zellerbach Corporation
6. Spokane, Portland and Seattle Railway
7. Meier & Frank Co.
8. Northwestern Glass Co.
9. Pacific Power and Foundry Co. - Renton Division
10. American Can Company
11. Earle M. Jorgensen Co.
12. State of Oregon Civil Service

PROCEDURE:

1. Choose three of the above application blanks.
2. Using pen complete each application form accurately and legibly. Remember that this application form represents you to the employer before he even sees you.
3. If you have questions, refer to Chapter 6 "Give Your Application Blank Sales Appeal: in your text.
4. When you have completed the application form, recheck to make sure you have answered all the questions.
5. Hand in three completed application forms.

318

FINDING & GETTING A JOB - Auto. Mech.
Draft.
Elec.
Met. Sh.

APPRENTICESHIP TRAINING

Job Sheet #7

OBJECTIVE: To gain general information about apprenticeship training

MATERIALS: Pamphlet: "Some Questions & Answers About Apprenticeship Training"

PROCEDURE:

1. Obtain the assigned pamphlet from the file.
2. How many trades and crafts are apprenticeable in Oregon?

QUESTIONS:

1. What is an apprenticeship?
2. How many trades and crafts are apprenticeable in Oregon?
3. What is the average time wait for an apprenticeship opening after a person applies?
4. State the opportunities for advancement beyond being a journeyman.
5. How would it be possible to become a journeyman without serving an apprenticeship?
6. How much education must an individual have to qualify for an apprentice program?
7. What trades do not require a high school diploma in order to enter their apprenticeship program?
8. Name the courses a high school student should take to prepare for an apprenticeship.
9. What are the age limits for an apprentice?
10. Of what value is high school vocational training in obtaining an apprenticeship?
11. Could a person who had served time in prison qualify for an apprenticeship?
12. How long a time does an apprentice serve in training?
13. In addition to working on the job, what other training does an an apprentice receive?
14. What wages can an apprentice expect to receive?
15. What expenses does the apprentice have?
16. How can an apprentice keep from losing his apprenticeship in the event he is drafted?

APPRENTICESHIP TRAINING

Job Sheet #8

OBJECTIVE: To gain information about a specific apprenticeship training program.

MATERIALS: Apprenticeship Information Center Bulletins, available in the file and in the study center.

PROCEDURE:

1. Obtain a pass to the study center.
2. Ask the secretary to direct you to Apprenticeship Information Center (AIC) Bulletins.
3. Answer the following questions.

QUESTIONS:

1. List all the vocational areas you can find in which one can go through apprenticeship training.

a.
b.
c.
d.
e.
f.
g.
h.
i.
j.

2. Choose one of the above apprenticeship programs to investigate thoroughly, and answer the following:

   a. Name of program.
   b. What kind of work do workers in this program do?
   c. How are applicants chosen to become apprentices in this program?
   d. List the minimum basic requirements for this apprenticeship in terms of
      (1) Age
      (2) Health
      (3) Education
      (4) Tests
      (5) References
   e. How long is the apprenticeship?
   f. What wages will the apprentice be paid?
   g. What wages could the apprentice expect to receive when he became a journeyman?
   h. Give the address where one would go to apply for this apprenticeship program.

FILMS & GUEST SPEAKERS

Job Sheet # 9

OBJECTIVE: To assess the main points presented by a film or a guest speaker

MATERIALS: This job sheet to be turned in for each film or speaker.

PROCEDURE:

1. Read the questions below before viewing a film or hearing a speaker.
2. Listen attentively to the presentation.
3. Answer the questions below.

QUESTIONS:

1. State the title of the film or the name of the speaker:
   ____
2. List the three most important points you feel the film or the speaker made:
   a. ______________________________
   b. ______________________________
   c. ______________________________
3. State two items of information about Finding and Getting a Job that you learned from this presentation which you did not know before:
   a. ______________________________
   b. ______________________________
4. Write a statement telling how the information given by the film or speaker could be valuable to you personally.

BIBLIOGRAPHY OF MATERIALS
USED IN
VOCATIONAL ENGLISH PROGRAM

AUTO MECHANICS BIBLIOGRAPHY

BOOKS

Crouse, William H. Automotive Mechanics. 5th edition, McGraw-Hill, 1965.

Chilton Repair Manual, 1969.

Motors Auto Repair Manual. 24th Ed. New York, Motor 1961.

Motors Flat Rate & Parts Manual.

Stephenson, George E. Power Mechanics. Delmar Publisher, 1963.

PAMPHLETS & PERIODICALS

Alemite's Recommended Training Procedure for Wheel Alignment.

Autolite, Spark Plug 1964 Dealer Catalog.

Charging, Ignition & Cranking Systems, Delco-Remy, Anderson, Indiana.

Energizers & Batteries. Delco-Remy, Anderson, Indiana.

Introducing the Delcotron Generator & Charging Circuit. Delco-Remy, Anderson, Indiana.

Machinist, The. published by International Assoc. of Machinist and Aerospace Workers

Regulations and the Charging Circuit. Delco-Remy, Anderson, Indiana.

"20,000 Volts Under the Hood." Delco-Remy, Anderson, Indiana.

Wheel Alignment Snap-On Tool Co. Manual.

"Questions and Answers on Apprenticeship Training"

DRAFTING BIBLIOGRAPHY

BOOKS

Burke, Arthur E. *Architectural & Building Trades Dictionary*. Amer. Tech. Society, 1955.

Spence, Wm. P. *Architecture-Design-Engineering-Drawing*. McKnight, 1967.

Hysler, Donald & Wallach, Paul. Architecture, Drafting & Design. McGraw-Hill, New York, 1963.

Crispin, Frederic Swing. *Dictionary of Technical Terms*. Bruce, 1970.

Douglas Fir Use Book. Western Wood Prod. Assoc. 61st ed. 1968.

French, Thomas and Vierck. *Engineering Drawing for Students and Draftsmen.* (10th edition), McGraw-Hill, 1966.

French, Thomas. Manual of Engineering Drawing for Students and Draftsmen. McGraw-Hill, New York.

French and Svensen. Mechanical Drawing (7th Edition), McGraw-Hill, 1966.

French, Thomas. *Mechnical Drawing: A Text with Problem Layouts*. New York, McGraw-Hill.

PERIODICALS

Engineer, Engineers Joint Council, New York, New York.

"Questions and Answers on Apprenticeship Training", U.S. Dept. of Labor

"Western Architect and Engineer."

ELECTRONICS BIBLIOGRAPHY

BOOKS

Zbar, Paul. *Basic Electricity & Electronics*. McGraw-Hill, 1967.

Lemon, Wayne & Bobcoke, Carl. *Color T.V. Servicing Made Easy*. Vol. 2. Sams Publication, 1967

Dictionary of Electronic Terms, The.

Cerrish. *Electricity & Electronics*. Goodhart-Wilcox, South Holland, Illinois. 1968.

Zbar, Paul. *Electricity-Electronics Fundamentals: A Text-Lab Manual*. McGraw-Hill, 1969.

Duarte & Duarte. *Electronics Assembly Methods*. McGraw-Hill, 1964.

Delpit & Johnson. *Electronics in Action*.

G.C. Electronics Catalog.

Zbar, Paul. *Industrial Electronics*. McGraw-Hill, 1960.

Faber, Rodney B. & Heiserman, Russell L. *Introduction to Amplifiers*. McGraw-Hill, 1968.

Modern Dictionary of Electronics. Sams, 1968.

RCA Receiving Tube Manual. Radio Corp. of America, 1968

Bademieff & Davis. *Speaker Enclosures*. Sams, 1966.

Kiver, Milton. *Transistors*. 3rd Edition. McGraw-Hill, 1962.

Cavallari, F.D. *The Transistor-Study Guide No. 5*.

PERIODICALS & PAMPHLETS

Electronics Digest. Wm. M. Palmer, Editor and Publisher, 2615 West 7th Str., Fort Worth, Texas 76107.

Elementary Electronics. Science & Mechanics Publishing Co., 229 Park Ave. S. New York, New York 10003.

Lafayette Radio Electronics.

Radio Shack Annual Catalog.

"Some Questions and Answers on Apprenticeship Training" pub. by State of Oregon, Employment Division, Salem, Oregon.

METAL SHOP BIBLIOGRAPHY

BOOKS

Peterson. *American Labor Unions*. Harper & Row, 1963.

American Steel Catalog.

Kursh, H. *Apprenticeships in America*. Norton, 1965.

Giachino, J. *Basic Bench Metal Practice*. Bennett, 1943.

Brodhead Garrett Catalog. 1969.

Cooley, P.H. *Complete Metal Working*. Arco, 1967.

DoAll Cutting Tools Catalog. #66.

Parker, Marvin M. *Farm Welding*. McGraw-Hill, 1958.

Jennings, Royalston F. *Gas and A.C. Arc Welding and Cutting*, McKnight & McKnight, Bloomington, Illinois, 1957.

Lindbeck & Lathrop. *General Industry*. Bennett, 1969.

Feirer, John L. *General Metals*. McGraw-Hill

Fraser, Roland. *General Metals*. Prentice Hall, 1962.

Giachino, J.W. *General Metals for Technology*. Bruce, 1964.

Xman & Koch. *Labor in American Society*. Scott Foresman, 1965.

Widick, B.J. *Labor Today*. Houghton, 1964.

Bolt. *Machinery Handbook*.

Burghardt & Axelrod. *Machine Tool Operation*, Part I. McGraw-Hill, 1959-60.

Burghardt & Axelrod. *Machine Tool Operation*, Part II. McGraw-Hill, 1959-60.

Smith, . *Machining of Metals*.

McCabe & Bayer. *Metals, Atoms & Alloys*. McGraw, 1964.

Feirer, John L. *Metalwork*. Bennett, 1970.

Feirer, John L. *I.A. Metalwork*, Bennet, 1965.

Althouse, Andrew. *Modern Welding*. Goodhart-Wilcox, 1967.

Johnson, H.V. *Technical Metals*.

Tucker & Sons Catalog, 1970.

VOCATIONAL ADVISORY COMMITTEE MEETINGS
PERTAINING TO VOCATIONAL-ENGLISH

PERIODICALS & PAMPHLETS

AFL-CIO NEWS. 815 Sixteenth Street, N.W. Washington, D.C.

The Federationist. Official monthly magazine of the AFL-CIO, Washington, D.C.

The Machinist. Published by International Assoc. of Machinists & Aerospace Workers.

Steel Facts. Published Public Relations Dept., American Iron Steel Institute, Washington, D.C.

"Some Questions & Answers About Apprenticeship Training". Published by State of Oregon, Employment Division, Salem, Oregon

VOCATIONAL-ENGLISH EVALUATION PROCEDURE

Evaluation in this class will operate just as it does on the job. On-the-job evaluation is usually of three parts: Productivity, Work Habits, and Attendance Record. These areas will be defined in Vocational-English as follows:

A. Attendance . . . . 1 pt. per day

B. Productivity . . . . 1 pt. for each Job Sheet satisfactorily completed.

C. Work Habits:

1. Be in class on time with proper equipment . . . . . . 1 pt. per day
2. Begin work immediately; work until bell . . . . 1 pt. per day
3. No disruptive behavior . . . . 1 pt. per day
4. Return all materials . . . . 1 pt. per day

You will earn points daily in these six areas. Each day you will evaluate your own class performance on the form below, giving yourself 1 point in each area in which you have earned it. You will be using the honor system in tallying points; however, should you violate it, points will be deleted by the teacher and deducted in the final grade evaluation.

In order to earn a point for a job sheet, it must be satisfactorily completed with an OK from the teacher and be filed in your folder for the 9-weeks evaluation, at that time the number of job sheet points must correspond with the number of OK'd job sheets in your folder.

In addition, it will be possible to earn BONUS POINTS for perfect attendance (5 points for 3-weeks perfect attendance) and for assisting in the classroom operation. See posted Job Descriptions for details.

Be sure to take the last five minutes of each period to return materials and to evaluate your daily performance. Remember, you are responsible for keeping your own records!

ELECTRONICS ADVISORY COMM.
April 5, 1971

NOTES:

1. Students should explore the differnet fields of electronics so they know the specific one they wish to enter. "There are a lot of unhappy technicians around who are not in the job they want to be in, because they didn't investigate the field."

   How to do this?

   a. Speakers from employment agencies
   b. Visit Bell System — they have an open house periodically
   c. Visit General Telephone
   d. Not feasible for students to spend a day at any of the companies represented here — insurance and other factors against it.

2. Correspondence skills:

   a. IMPORTANT!
   b. Comments: "One of the world's greatest aptitudes is to be able to sit down and write a letter."

      "When I was in school I learned two forms for a letter — slanted and block — but I never knew what to write in either form."

      "Password to success — work hard; be courteous; do good work, and be able to write a letter."

   c. It is a necessary skill in the business world to be able to organize one's thoughts and put them on paper.
   d. Teach them to write technically. Memos are used constantly—students should be taught how to write them.

3. Reading skills:

   a. In the technical field, knowing where to look for information and how to find it increasingly important.
   b. Scanning important for retrieving information when you want it.
   c. Example: Telephone technician said that 23 loose-leaf binders came with his new truck, and he had to be able to find information in them quickly inorder to use his equipment properly.

4. Technical terminology:

   a. In industry they just use abbreviations. The worker has to know! There is no short cut for simply memorizing them.

5. Getting and finding a job - the text for this area looked good to them.

6. Suggestions:
   1. Have seniors write a resume at beginning of senior year and again at the end.
   2. Include in the course skills in taking notes and in how to keep a notebook.

METAL SHOP ADVISORY COMM.
April 12, 1971

NOTES:

1. Correspondence skills:
    - a. Letter writing not necessary skill. Foreman would not write letters.
    - b. Memos - most used form of written communication in shop.
        - (1) Form of Memo: To:
          From:
          Subject:
        - (2) Information on memo should be clear and concise. Would often include a sketch or machine drawing.
            - (a) Possible to work up job sheet with hypothetical situations that would necessitate writing memo.
            - (b) Memo from Day Shift to Night Shift - must be written so message is understood. Possible job sheet.

              Example: 2 key ways in a shaft, halfway completed. Day shift writes a note explaining what has been done and where job should be picked up.

2. Technical terminology:
    - a. Good. Need to have in order to read blueprints.
    - b. Some shops don't use it. Every shop that has own draftsman has own terminology.
    - c. Are there any standardized abbreviations? Yes. Army and Navy have their own. Set up own standards. Military specifications.
    - d. Symbols - more important than abbreviations. Make up job sheet so students learn symbols.

3. Reference skills:
    - a. Always important to look things up. Be thorough. Double check everything.
    - b. Possible references to use for job sheets:
        - (1) Wolfe (from Ford Motor Co.). "How to Run a Milling . . ."
        - (2) Kearney & Tregger (sp?) "Milling Maching Operation"
        - (3) Write to factories in South Bend for pamphlets.

4. Getting a job:
    - a. Text looks OK.
    - b. Important to learn how to sell self.
    - c. Know how to speak to an employer properly.
    - d. Important to follow the direction on an application. Employer judges applicant on this. "If he can't follow instructions on an application, he can't follow instructions on the job."
    - e. Unions - Students should be exposed to unions and what they do.

(1) Speaker from local union. (Mr. Simenson suggested one and he would help contact when we need one.)

(2) Machinist Paper - Have students read. Perhaps work up Job Sheet using it.

f. Students must decide whether they want a job on the line or in business for themselves.

(1) Metal trades a wide field. Student expected to know a little bit about all of it.

5. Suggestions:

a. Spelling - plain and simple. Important to know!

b. Job sheet - write up a comparison of two tools. Give opinion of each in plain English. (This type of writing often part of the job.)

c. Learn how to read calibers, how to set up a part and lay it out.

d. Mathematics is really important!!

AUTO MECHANICS ADVISORY COMM.
May 19, 1971

NOTES:

1. Reading:
   a. Just like a doctor or a lawyer, a mechanic can not remember everything. Therefore it is important to read to keep up in field. Skills of skimming and scanning excellent for this purpose.
      (1) Auto becoming more complex all the time.
      (2) Technical bulletins come in twice a week.
2. Spelling
   a. "Spelling is as important as knowing how to use the wrench!"
   b. Records go up to the boss; embarrassing, if not correct.
   c. Written material must be legible if passing on to a boss.
3. Jobs
   a. Attitude is really important. Employee must be willing to begin at the bottom. Stress this.
   b. There is a demand for mechanics - a place where you start and a career that you work into.
   c. Get through to students how many craftsmen make money.
   d. Students would be aware that the union exists and the importance of it.
      (1) Obtain union information regarding benefits, wages, etc. from the Labor Temple.
4. Habits on the job:
   a. Cleaning up is important. Be sure students put away materials and leave room clean when class is over!
5. Suggested job sheets:
   a. Write a summary of a job performed.
   b. Write a warranty repair.
      (1) Student writes a description of the failure and what he did to repair it.

DRAFTING ADVISORY COMM.
May 10, 1971

NOTES:

1. Reading:
    a. Scanning is important.
        (1) Scan first; then go back for technical information.
    b. "No such thing as a draftsman; he's part engineer."
    c. Introduce students to broad spectrum of kinds of reference materials available.
        (1) Technical magazines - have students preview.
        (2) The biggest problem in industry is the mass of material available; no one can possibly keep up.
        (3) Write a letter to secretaries of Society of Mechanical Engineers and Society of Electrical Engineers to get back issues of their periodicals.
        (4) Devote 1 period a week to overviewing a magazine.
        (5) Trade journals should be in the room - as many as possible.
    d. Read specifications and contracts.
2. Technical terminology:
    a. "The language of drafting is the big thing."
    b. Important to know engineering terms and materials.
    c. Stress work with words.
3. Writing:
    a. Report writing - teach students how.
        (1) What is it? Why is it good?
        (2) Write [illegible] report, a survey report, which analyzes a problem by putting it on paper. Give a qualified opinion of the problem.
    b. "Fog Index" - a measure of how clearly one writes. (Mr. Woodworth will loan his copy).
    c. Letter writing - important!
4. Speaking
    a. Spoken language is important. Advancement comes by demonstration of ability - can't be tongue-tied!
    b. Suggested activities:
        (1) Have a dictaphone available; each student talk in one.
        (2) Chalk talk. Each student make an explanation, using a piece of chalk to illustrate.
        (3) Give each student one word and have him talk one minute on it.
5. Reference
    a. Highly important!
        (1) From the time they get out of school draftsmen need to know how to find reference material. No more memorizing; he has to know where to find information.
        (2) Only a small part of the engineering exam(a 2-day test) is a closed book. Called "the suitcase test."
        (3) It's a true test if the individual can use the reference material available to him.

Summary of Various Parents Critiques

1. Did you notice any change in his attitude toward writing, reading, or English last fall term?

. . . first English class he's had that was directly related to his interests.
. . . reads more magazines now than before.
. . . more knowledgeable about filling out forms.
. . . attitude more positive; he liked the class.
. . . was boring at first, but later enjoyed the reading and writing.
. . . no change because it was taken for vocational credit.

2. Does he feel differently now about language arts instruction than before? (positive or negative)

. . . he was positive before, and still is.
. . . can't see that he does.
. . . yes, he knows more about machinery and their parts.
. . . yes.
. . . more positive; he feels better prepared for shop classes to come.
. . . yes.

3. Did he like the individualized job sheets? Why?

. . . liked the individual job sheets very much.
. . . yes; it gave him a chance to get a work permit, which he is using.
. . . yes, because he thought they'd help him fill out applications to find a job.
. . . yes, but he thought there were too many.
. . . yes; he felt they covered what was important for the students to know.
. . . yes; they taught you just what you needed to know.

4. Any other comments or pertinent information.

. . . continue the program; write another semester of it; expand it into other subjects
. . . have more field trips
. . . only English class he has ever liked; one of his two best high school classes
. . . excellent class; class should be continued because it does involve understandings necessary to effectively compete in the field.
. . . he liked the class very much; it was a useful class.

EVALUATION

by

OUT-OF-DISTRICT TEAM

May 10, 1972

Evaluation Report
for
DEVELOPMENT OF COMMUNICATION SKILLS
PROGRAM FOR VOCATIONAL STUDENTS

West Linn High School West Linn Oregon 97068
Dr. Alvin K. Pfahl, Director

Evaluation Committee:

Warren Rathbun, Area III Portland Public Schools, 1221 S. E. Madison Street, Portland, OR 97214.

Lee Maxwell, Gardiner Jr. High, 180 Ethel Street, Oregon City, OR 97045.

Harry R. Burnham, Whitaker Middle School, 5135 N. E. Columbia Blvd., Portland, OR 97218.

The committee reviewed the project with Dr. Pfahl, Project Director, Mrs. Schuberg, English teacher, who did the teaching of the classes involved in the project. The committee was impressed by the enthusiasm Mrs. Schuberg displayed for the project and the feeling that she had that the students were responding to this type of instruction with much more interest and enthusiasm than they had in the conventional English classes she had taught.

The original project for the school year 1970-71 saw the development of a fairly large number of job sheets for the English classes. These were written by the English teachers and the Industrial teachers in the areas of Metals, Mechanics, Drafting and Electricity-Electronics. This project was funded by District funds.

The exemplary project 1971-72 was for the purpose of reviewing the original job sheets and adding many more. It was also anticipated that job sheets developed by Northwest Regional Educational Laboratory be adapted to use at West Linn. This latter part was found to be not practical and that part of the project was discarded. Some of the original job sheets were revised and many more were written so there is now a total of 287 useable job sheets available. These are by areas as follows: Metals 89, Mechanics 94, Drafting 88, and Electricity-Electronics 116. This total was somewhat short of the planned total of two hundred for each area, but should be adequate for a semester's course.

The revision of the original jobs sheets was partly as a result of review of them by an Industry Advisory Committee for each occupation during the Spring of 1971. Also the revisions were a result of experience in use of the originals. The Evaluation Committee did not see all the job sheets but did see a sampling for each occupational area.

A review of the specific objectives of the project are as follows:

Objective #1: Have all existing job sheets reviewed by the respective industry advisory committee to accertain their occupational relevance.

The original job sheets were reviewed by the Advisory Committees during the Spring of 1971 and the rewriting was a partial result of this. The Advisory Committee involvement was also good public relations as it resulted in the committee members becoming more interested in the problems of the school and voluntarily supplying materials that were of use to the school.

The new job sheets have not been reviewed by the Advisory Committee but it is anticipated that they will do so this fall. It is the feeling of the Evaluation Committee that this should be pursued as the expertise of the industry representatives should be very useful and the public relations resulting can also be valuable.

Objective #2: Re-edit the existing job sheets, revising and extending industrial content.

The existing job sheets were re-edited and revised and extended as a result of the Advisory Committee's report and also as a result of the experience with using the job sheets.

Objective #3: Bibliographical materials of content will be updated and corrected.

Bibliographical materials have been updated partly as a result of the Advisory Committee's suggestions. It seems apparent that a complete listing of materials need to be made, especially as this would be useful for anyone else wanting to develop a similar program.

Objective #4: New Job Sheets will be added.

New job sheets have been developed. No breakdown was given the Committee as to how many of the job sheets now in existance are new and how many were previously developed.

Objective #5: Improve differenciation of category 4 (terminology, symbols, etc.) and category 5 (job hunting skills.)

The Committee never really came to an understanding of what was intended here. Mrs. Schuberg stated that the students were not as interested in the job hunting part of the English course as they were in the other parts of it. There apparently was a lot of student interest in the other categories.

A set of the job sheets will be appended to this report by the project director.

Recommendations of the Evaluation Committee

1. The Evaluation committee feels that this project fulfills a real need. It helps to make English a much more relevant subject to the vocational student for which it is designed. As a result of this the Committee feels that this

program should be continued and expanded.

2. This is a program that is transportable to other schools or should be with modifications to fit local needs. There are a number of schools in Portland Area III that are interested in this area so communication between these schools should be of advantage to both.
3. It was the feeling of the committee that a program similar to this should be established relating Mathematics with the Shop programs. If West Linn is not interested or able to do this some other school should study what they have done here in the communication skills and institute a similar program in Mathematics. Possibly a similar program could also involve Science and the Shop program.
4. It was also the feeling of the Committee that many of the elements of this program could be integrated into a regular English class to make it more relevant to todays needs.

Signed

Harry R Burnham

Harry R. Burnham

Warren C. Rathbun

Warren Rathbun

Lee Maxwell

Lee Maxwell